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ON PREVALENT THERAPEUTIC INCONSISTENCIES IN MEDICAL PRACTICE, ILLUSTRATED IN CURRENT MEDICAL LITERATURE AND IN CLINICAL OBSERVATIONS.

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To gain a correct knowledge of the morbid processes capable of taking place in the human body and the laws by which they are governed, on the one hand, and an equally correct knowledge of the action of remedial agents, on the other, are the two great leading objects of every thoughtful and conscientious physician. Without the first, he is incapable of seeing clearly what he needs to accomplish in the treatment of any given morbid condition or disease; and without the second, he is equally in doubt as to the particular remedy best adapted to the accomplishment of the changes desired; and in consequence he is obliged to prescribe empyrically such remedies as are recommended by his teachers or authors.

For instance, if he regards any given case of fever as simply increase of heat or pyrexia as its chief pathological element, without any definite knowledge as to whether such pyrexia has resulted from increased activity in the processes of heat production or a diminution of those of heat dissipation, he will have no guide as to which of the antipyretic remedies is best adapted to the case before him.

Or, if he has learned to discriminate correctly the special morbid processes by which the pyrexia is sustained but has neglected to study the modus operandi, or mode of action of such remedial agents as are known to reduce animal temperature he is equally in doubt and as liable to choose the wrong therapeutic agent as the right one.

The inadequacy of time hitherto devoted to study in the two directions just named, and the consequent incompleteness of knowledge concerning both morbid processes and the action of remedies, has caused our medical literature to be filled with the most confused and even contradictory statements concerning the application of remedies in the treatment of disease; and sometimes even attributing to the same remedy qualities so diverse as to be incapable of rational explanation.

Opium and alcohol furnish striking examples of the latter. Thus, in that well known standard work, the National Dispensatory, we are informed that, "alcohol applied to the roots or stems of plants destroys their life. It is poisonous to every animal, producing local or general anæsthesia, according to the mode of the employment. Applied to the trunk of a nerve it paralyzes all its branches, and to the brain it impairs sensation and voluntary motion. * * * Taken internally, in small quantities appropriately diluted, it excites a sense of warmth in the stomach, and, if the person is very susceptible, an almost instantaneous glow throughout the body, etc. * * * In larger and intoxicating doses, alcohol occasions such symptoms for a shorter time, but speedily induces a state of impaired perception and motor power, which is followed by one of total insensibility and unconsciousness, in which the phenomena are those of congestion of the brain, and usually of the whole capillary vascular system, although the latter sometimes gives way to coldness and pallor." Yet, on the next page of the same work, the same substance is represented as "stimulating the exhausted nervous system and thereby exciting the distended capillary blood vessels to contract," and as under certain circumstances acting as food. And again that "in the form of distilled spirits, alcohol is the universal and familiar remedy for *debility of every kind*, whether it be due to exhaustion produced by shock or fatigue, or shown by syncope arising from a nervously feeble or an exhausted heart, to wasting chronic disease, or to the tissue destruction of acute febrile affections."

How any material substance can possess such properties as to be capable of diminishing the sensibility of the whole nervous system, of impairing the oxidizing power of the blood-corpuscles, of lessening metabolic changes in all the living structures, and by contact absolutely poisonous or destructive to both vegetable and animal life; and yet be capable of "stimulating the exhausted nervous system," of becoming real food, and of exhibiting such ubiquitous tonic powers as to constitute a universal "remedy for debility of every kind," is certainly beyond the comprehension of an ordinary mind.

One of the most influential causes of confusion and failure in the application of remedies in the treatment of disease, is the long continued custom of classifying or rather grouping of remedies in reference to their influence over some one prominent symptom of disease, instead of on their real mode of action in the system. For instance we group together all remedies capable of efficiently reducing animal heat and call them antipyretics. Hence, we find under that name sponging, packing, and bathing with water, the exhibition of quinine, salicine, antipyrin, acetanilide, phenacetin, digitalis, etc.; and not unfrequently we see nearly all of them given in turn to the same patient during a single run of continued fever. Yet there is no fact within the domain of therapeutics better established than that antipyrin, phenacetin, and all the recently constructed coal-tar series of antipyretics, so modify the hemoglobin of the blood as to lessen its conversion into

oxyhemoglobin, and therefore lessen the conveyance of the oxygen from the pulmonary to the systemic capillaries, and thereby diminish temperature by diminishing tissue metabolism and the sensibility of the cardiac, vaso-motor, and respiratory nerve centers.

In other words, they diminish the internal respiration by which oxygen is carried from the pulmonary to the systemic capillaries and carbon dioxide returned, and in the same proportion they diminish nerve sensibility and natural molecular and secretory action. Therefore, they reduce temperature principally by depressing all the processes by which heat is naturally evolved. On the other hand, the use of water by sponging, packing, or full baths, increases the activity of the nervous centers and of the natural secreting structures and actively reduces the temperature by increasing the processes of heat dissipation. Thus, while both series of remedies are called antipyretic, they produce their antipyretic effects by influencing the cardiac, vaso-motor, and respiratory functions in nearly opposite directions. And yet we have often found the practitioner daily administering both kinds to the same fever patient for one or two weeks in succession.

Another cause of much inconsistent and even contradictory use of remedies in the treatment of diseases, is the failure to maintain a clear line of distinction between tonics, stimulants and anæsthetics. Correctly speaking, a *tonic* is an agent that is capable of increasing the tonicity, strength, and natural efficiency of some one or all of the structures of the body. A *stimulant* is one that simply increases the excitability and rapidity of action. An *anæsthetic* is one that directly diminishes both sensibility and action, either local or general, according to the method of its use. Within certain limits, it is evident that tonics and stimulants may coöperate in their action on the structures and functions of the living body at the same time; while the action of an anæsthetic is directly antagonistic to both. And still, some of the most familiar and extensively used anæsthetics are spoken of and used as stimulants and tonics both in and out of the profession, and often given alternately with the latter, to the same patient from day to day. Both in standard works on practical medicine and in the periodical medical literature we find iron, quinine, mineral acids, cod-liver oil, wines, distilled spirits, ammonia, camphor, etc., enumerated as general tonics and stimulants, adapted for the promotion of strength and nutrition. And in referring to special cardiac tonics and stimulants, strychnine and alcohol almost always head the list, followed by digitalis, strophanthus, convollaria, cactus, musk, oxygen, etc. One eminent teacher and writer on practice of medicine says in regard to lobar pneumonia, the two chief sources of danger are "*heart-insufficiency and high temperature*," and he adds that "alcohol, judiciously used, is the most efficient means for overcoming" the first, and the sulphate of quinine in moderately antipyretic doses, the second. Another writer in the January number of *International Clinics*, 1892, formulates the treatment of catarrhal pneumonia in children under the following heads: 1. Fresh air. 2. Relief of pain. 3. Stimulation. 4. Treatment of complications. Under the first head he very properly insists on the most free and efficient ventilation of the sick room, that the patient may have constant access to *fresh* air. For relieving pain he condemns the use of opiates as dangerous in such cases and relies on simple emollient poultices to the chest. For *stimulation*, he says: "We stimulate by the constant administration of alcohol; fifteen, twenty, twenty-five drops, or a teaspoonful of whisky, according to age, every two hours." In several very recent numbers of the *British Medical Journal*, correspondents have detailed a number of cases of extreme depression and cyanosis in pneumonia treated with strychnine and oxygen inhalation, and at the same time giving brandy or whisky between the inhalations. Each inhalation revived and improved the aspect of the patient, only to be quickly replaced by the cyanosis and finally the death of the patient. One case came under my own observation, in the treatment of which the attending physician was diligently administering oxygen by inhalation and brandy, both by the mouth and rectum. And very many times during the last ten or fifteen years I have seen patients in the second, third, and even the fourth week of typhoid fever, who were diligently taking day after day, antipyrin, acetanilide or phenacetin to reduce the temperature; strychnine and mineral acids to increase innervation or nerve sensibility; and wine, whisky or brandy as supposed cardiac tonics. If we examine the results of the most reliable investigations concerning the action of the remedies mentioned as used in the cases to which I have just alluded, we quickly learn that the patients were actually using, coincidently, remedies of decided antagonistic influence on the structures and functions of the human body. For instance, both carefully executed experiments on animals, and abundant clinical observation have shown that antipyrin and the group of antipyretics to which it belongs directly diminish the formation of oxyhemoglobin in the pulmonary capillaries and the conveyance of oxygen to the systemic capillaries, and thereby diminish metabolism, heat production and nerve force. Hence, there are many cases on record, in which their administration was followed by cyanosis and a dangerous degree of depression of the cardiac, vaso-motor and respiratory nerve functions. Still more numerous experiments on animals and almost unlimited clinical observation has shown that alcohol produces a similar effect on the hemoglobin and albuminous constituents of the blood, thereby lessening the tissue metabolism, but more directly diminishing at the same time the sensibility of the whole nervous system in a manner closely analagous to that of chloroform and ether. Therefore, instead of acting as either a stimulant or tonic, it constitutes a true anæsthetic, and has been often used as such, mixed with chloroform and ether. When introduced into the system in any manner, it not only diminishes the sensibility of the cerebral hemispheres and thereby suspends consciousness, but it also lessens the sensibility of the vaso-motor, respiratory and cardiac nerve ganglia, and in direct proportion to the amount used.

On the other hand, strychnine is conceded by all, to be capable of directly increasing the sensibility and action of the cardiac, vaso-motor, respiratory and cerebro-spinal nerve structures; and therefore, is in direct physiological and therapeutic antagonism with the antipyrin, alcohol and other anæsthetics. Consequently when a patient with typhoid fever is given from day to day antipyrin or phenacetin to control temperature, milk and eggs liberally mixed with alcohol for nourishment; and strychnine, mineral

acids, and fresh air for tonics; the antipyrin and alcohol directly antagonize the influence of the strychnine and fresh air, both on the nervous centres and on the blood and tissue changes. If in such cases, the antipyrin and alcohol, and all other agents of similar action, were entirely omitted, and judicious applications of water to the surface substituted, the treatment would be harmonious and far more beneficial in its results, as I have seen demonstrated many times during the last half century.

In the cases of pneumonia to which I have alluded, the inconsistency of giving whisky or brandy or any other alcoholic freely, alternately with digitalis, strychnia, fresh air or oxygen, is still more apparent. The pneumonic engorgement of the lung has already much diminished the amount of oxyhemoglobin in the blood and thereby checked both tissue metabolism and renal secretion, as well as dulled the nervous sensibilities, voluntary and involuntary. In such a condition, to set the doors and windows open for fresh air, or to give the patient oxygen inhalations, and at the same time liberally of alcoholics, perhaps twice in the twenty-four hours an antipyretic dose of antipyrin or phenacetin, or a hypodermic dose of morphine, would be much like plugging the larynx of a dog, and then trying to keep him alive by practicing artificial respiration without removing the plug.

I am well aware that those who give alcohol in pneumonia, do it in obedience to the teaching that the chief danger in the disease is cardiac weakness and that alcohol is an efficient cardiac tonic. But why does the heart become weak or inefficient in pneumonia? Certainly not from fatty degeneration or any other structural change in the cardiac muscle; but its weakness is either from the diminished oxygenation and decarbonization of the blood through the obstructed parenchyma of the lung, or from the toxic effect of ptomaines or leucomaines, bacteriological or renal, or from all these combined. If it were possible, with the patient in such condition, to simply increase the action of the heart, it would only pump more blood into the already obstructed pulmonary capillaries and still further diminish the natural entrance of oxygen through the air cells of the lungs, and thereby increase the danger of inducing both respiratory and cardiac paralysis. The rational indications for treatment, then, are, to lessen the pressure of blood and inflammatory products upon the pulmonary alveoli, and thereby allow the entrance of more oxygen and the exit of more carbon dioxide, and as far as possible to neutralize or eliminate the toxic ptomaines whether derived from the pneumococcus or from retained elements of urine or bile. Just in proportion as we accomplish these, we restore the natural sensibility and action of the nervous structures, increase the renal and hepatic secretions, and promote natural metabolism throughout the system.

But do not both common observation, whether at the bed-side or in the social circle, and the most accurate experimental work show, that alcohol is a true anæsthetic, diminishing nerve sensibility, muscular force, and the efficiency of the blood in carrying oxygen from the pulmonary to the systemic capillaries in direct proportion to the quantity introduced into the system? If any one has doubts concerning the affirmation of this question, let him read carefully the experiments of Sidney Ringer and Prof. Martin on the action of alcohol on the isolated heart, and those of H. C. Wood, as given in his address on Anæsthesia before the International Medical Congress in Berlin. If we add to the results obtained by these three, those obtained by R. Dubois in 1883, we have the most complete demonstration, not only that ether, chloroform and alcohol are true anæsthetics, each mutually intensifying the action of the others, but that each directly diminishes the sensibility and action of the vaso-motor, respiratory and cardiac nerve ganglia or centers, in direct proportion to the amount introduced into the blood, until either respiratory or cardiac paralysis ensues. And also that there is no stage in their action when the efficiency of the heart is increased. Then why longer be so inconsistent in the use of language as to call either of them a stimulant or tonic? And why continue to give one of them liberally with one hand, while with the other you give to the same patient its most direct physiological antagonists, digitalis, strychnine, or oxygen? Or why cap the climax of inconsistency by giving a patient already dangerously depressed from anæsthetics, hypodermic injections of ether or alcohol as supposed restoratives, as has been done many times both in this country and in Europe? Indeed it is only a few weeks since that a case was reported in the *British Medical Journal*, of a patient whose respiration and circulation had been suddenly suspended during the inhalation of the anæsthetic composed of ether, chloroform, and alcohol combined, and aside from the practice of artificial respiration the most prominent remedy mentioned was hypodermic injections of ether. Of course the patient did not recover. Many years since a man was brought into the hospital partially intoxicated by alcoholic drinks with a dislocation of the head of the humerus. As he was somewhat boisterous the the surgeon thought to quiet him and facilitate the reduction of the displaced bone by a cautious inhalation of chloroform. But he had inhaled only a very small quantity before both respiratory and cardiac action suddenly ceased and all efforts to restore them failed. The amount of alcohol already in his blood and nerve tissues rendered the addition of only a very small quantity of chloroform acting in the same direction, sufficient to overwhelm their functions. Another case came under my observation illustrating the danger of giving in quick succession different remedies capable of modifying the functions of the nervous centres in the same direction. The patient was wild and restless from delirium tremens. To quiet the delirium and induce sleep, the attending physician gave him chloral hydrate and potassium bromide every hour until three doses had been taken, forced a moderate amount of inhalation of chloroform, and finally gave half a grain of morphine, which was soon followed by sleep from which he never awoke. The amount given of any one of the four remedies used was not sufficient to endanger the life of the patient, but the coöperation of all certainly and speedily proved fatal.

Such cases show that it is quite as necessary that the physician should know accurately what remedies coincide and mutually intensify their action, as it is those that directly antagonize each other. And this suggests another item of extreme practical importance. It is to avoid giving a remedy to relieve some troublesome symptom without just apprec ation of its liability to increase some of the most important pathological conditions involved in the case.

For instance, in many cases of capillary bronchitis and of acute pneumonia, the patient becomes very restless from the oppressed breathing and harassing cough, and at the same time his urine is scanty and his blood surcharged with renal and bacteriological toxic elements with excess of carbon dioxide and deficiency of oxygen. But his physician overlooking these, thinks it necessary to give his patient rest, and for that purpose gives him a fair hypodermic dose of morphine and perhaps an antipyretic dose of phenacetin to control the temperature. In a short time the patient becomes quiet, sleeps some and expresses himself as much better, but is still drowsy, with a soft frequent pulse, frequent and shallow respiration, and moist râles over nearly the whole chest. In from twelve to twenty-four hours, the somnolence instead of disappearing is increasing, the pulse is weaker, the respirations more frequent and less deep, the cutaneous surface is moist and dingy or of a leaden hue, and the physical signs of pulmonary œdema are hourly increasing. Now, if not before, the alcohol in the form of whisky or brandy, is given freely for the alleged purpose of sustaining the failing heart. But, nevertheless, in another twenty-four or thirty-six hours the patient is dead. While the morphine quieted the cough and restlessness, giving the patient an appearance of relief, in the same ratio it diminished the efforts to keep the bronchioles and alveoli free, consequently less oxygen reached the hemoglobin of the blood and carbon-dioxide accumulated still more rapidly, until vaso-motor paralysis and pulmonary œdema completed the fatal process. During the unusual prevalence of pneumonia and other acute pulmonary affections, that have accompanied the influenza epidemics of the last three years, many cases have occurred to which the foregoing description would apply with almost literal accuracy.

Another of the most common therapeutic inconsistencies that mars the pages of our medical literature and leads to most important errors in practice, is the claim that the same medicine or therapeutic agent, may produce directly opposite effects on the living body by simply varying the dose. Examination will show that this claim is limited chiefly to the two important groups of medicinal agents properly called narcotics and anæsthetics. These are universally recognised as exerting their principal influence on the functions of some part or all of the nerve structures of the body, while some of them exert an equally direct influence on the constituents of the blood and through it upon the metabolism of the tissues generally. Concerning nearly all of the members of these two classes, and especially regarding the two representative articles, opium and alcohol, we are constantly assured that in small doses they are stimulating or tonic; in larger doses, anodyne or inebriating; in still larger doses, narcotizing or anæsthetic; and in still larger doses paralyzing or destructive to life. Consequently the very general popular belief, and equally popular practice, is, that their use in small doses is cordial, restorative or tonic and therefore beneficial, and injurious only when taken in larger doses. Unfortunately, however, no one has yet been able to define the limit or dividing line where the small or tonic dose ends and the larger or depressing dose begins. All admit that even in small doses, these remedies diminish the amount of oxygen conveyed from the pulmonary to the systemic capillaries, and thereby diminish the molecular or metabolic tissue changes and the excretion of the products of natural tissue metamorphosis. Indeed, it is on this power to diminish the internal distribution of oxygen and its action on the tissues that one of their chief and most important uses is made to depend, both in health and disease. But while looking in this direction and perhaps admiring the working of this fancifully so-called "savings bank for the tissues," it seems to be forgotten that all nerve sensibility and force depends upon the presence of blood containing the natural amount of oxygen; and that just in proportion as we diminish the proportion of oxygen in the blood distributed to the nerve structure we diminish both nerve sensibility and muscular action. So true is this, that the simple exclusion of oxygen produces a more speedy suspension of all sensibility or profound anæsthesia, than can be produced by the most active anæsthetics known.

Is it not then physiologically impossible that any agent should so far diminish the distribution of oxygen in the arterial blood as to diminish general tissue metabolism and not at the same time diminish the sensibility and action of the nerve structures both voluntary and involuntary? And if so, how can it be at the same time a cardiac tonic and general restorative?

A careful and thorough review of all the facts, social, clinical and experimental, bearing on this subject, will show that the very general belief in the stimulating or tonic properties of small and repeated doses of alcohol and opium is erroneous, being founded on a wrong interpretation of the primary symptoms produced.

Of course no such review of the facts can be given within the proper limits of this paper, but I may trespass upon your patience long enough to suggest the more important conclusions to which it would lead. For instance, the temporary quickening of the pulse or heart beat, the sense of warmth and lightness or exhilaration, that pervades the system, and the greater volubility of speech and less restraint in action, which constitute the only foundation for the popular idea of stimulation, on closer physiological analysis will be found to be evidences of coincident diminution of nerve sensibility (anæsthesia), and retarded tissue metabolism. The nervous apparatus controlling the circulation of the blood embraces both cardiac accelerators and inhibitors, and every well-informed psychologist knows that the mental part of the brain furnishes both accelerators and inhibitors of mental action. Indeed, it is the possession of the latter that gives to the human species one of its most distinctive characteristics, namely: the power of self-control and the sense of propriety. Every true narcotic and anæsthetic makes its first recognizable impression simultaneously on the cerebral hemispheres and the vaso-motor and cardiac nerve structures, lessening their sensibility, partly by direct contact with the nerve cells, and partly from interference with the internal respiration. Such lessened sensibility in the cerebral convolutions, when slight, simply diminishes the mental consciousness of outward impressions, and lessens the balance between mental acceleration and inhibition. Hence they exhibit less consciousness of cold, or heat, or pain, and more mental exhilaration, with less reserve or self-restraint.

Precisely the same kind of influence is exerted on

the nerves regulating the circulation, causing a very transient semblance of increased activity, but which is really lessened efficiency of circulation and molecular change. Now if you duplicate the dose of the same agent, the patient's consciousness of impressions is still less, and while he is under the same impression that he could do a great deal, his mental exhilaration and lack of self-restraint has given place to mental incoherence and incoördination of muscular action. Again duplicate the dose, and your patient soon lies profoundly unconscious, with every voluntary muscle paralyzed, with the cardiac and respiratory functions on the verge of final suspension.

To my mind, it is a clear demonstration that the action of the therapeutic agent was in exactly the same direction from the first and smallest dose to the largest one. And that direction was one of depression, diminished efficiency and paralysis, from the beginning to the end.

This is fully corroborated not only by the experiments of Dubois, Sidney Ringer, Martin and Wood, to which I have before referred, and many others, but also by a great variety of facts to be gathered from the mortuary, vital and social statistics of every civilized people. Did time permit, I might point out many more important therapeutic inconsistencies, that are to be found in the daily routine of medical practice, but those to which I have referred are sufficient for my present purpose. For the leading object I had in view in presenting this paper, was to urge upon your attention the importance of a more thorough study of the nature and true physiological action of the articles of our superabundant materia medica, in connection with an equally thorough study of the actual pathological processes that constitute disease.

I would in no wise diminish the activity and zeal that has been, and still is, displayed in studying the causes of disease, whether bacteriological, chemical or meteorological. But I would insist on an equal activity and perseverance in such investigations as will develop more accurate knowledge concerning the action of therapeutic agents in the living body, both in health and in disease. Every living structure has properties, or susceptibilities and affinities, that place it in definite relations to all other substances that may be brought in contact with it, whether as food, medicines or poisons.

And for gaining more exact knowledge of such relations, I would have every medical college laboratory, public hospital and dispensary, furnished with the necessary apparatus and means for such investigations, and with skilled workmen to use them.

A PLEA FOR THE MEDICAL EXPERT.

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Ever since Bacon and Descartes overthrew the deductive method of scientific investigation founded by Aristotle and practiced by the mediæval schoolmen, a more rigid exactness has been demanded by mankind in the statement of scientific facts. "Give us facts and away with theories" is the modern battle-cry of practical science. A mathematical precision only is worthy of its dignity. Mathematics itself and chemistry and astronomy are upheld as the models, and all knowledge that falls short of their exactness is looked upon with a gentle suspicion, and perhaps a sympathetic pity. Civil and mechanical engineering, architecture, steam manufacturing, and all the other arts and sciences based upon geometrical principles have taught us to be so rigid in our demands that we have very little patience left for what cannot be demonstrated by the rule of three or solved by the theorems of Euclid. We want so much to know the precise height and depth of everything, that we are prone to quarrel with mere opinions and to laugh to scorn imaginary theories. Columbus' visions of a western passage and Roger Bacon's dreams of the transmutation of metals would be deemed more than chimerical to-day if their whys and wherefores could not all be first figured upon the written scroll. It is fortunate, perhaps, for the race that science is made to toe the line in this unflinching manner. The darkness of the Middle Ages would long ago have been dispelled had the schoolmen watched, like Newton, an apple fall, instead of arguing how many angels could dance upon the point of a needle; and mankind would ere this have enjoyed the comforts and luxuries of modern civilization had the astrologers employed their vigils studying the measurements of time and space instead of concocting absurd horoscopes for the amusement of superstitious emperors. But at the same time there is a risk in being too exact, or rather in being satisfied with nothing but what is mathematically demonstrable. If we allow such a tendency to overrule us, all art will vanish like the morning mist, and science will go limping like a lame creature on a single crutch. We want precision, as much as we can get of it, but precision cannot always be obtained at once. Nay, more, in some departments of human knowledge it looks as though it were entirely unattainable. Who can round the circle or square the angles of such sciences for instance as sociology, physiology, morphology? Trousseau used to ridicule psychology, which he was wont to call a pseudoscience. When we survey the broad field of science in general, how meagre and stunted the harvest seems to be! Excepting the truths of mathematics we cannot say positively that we know anything. Even the knowledge that we do possess of the exact sciences is only relatively exact. It is so easy to ask questions which it is impossible to answer, and science may be criticised by the smallest child despite its presentation by the most learned savant. It is just here that the unseemly wrangles occur in our courts between the legal and medical talent. I am not referring now to those dishonest methods too often adopted by both the counsel and the medical expert for the purpose of warping known facts to gain an end. I speak of those instances that do occur, though less frequently, in which there is an honest but unsuccessful effort to learn some positive medical facts for the guidance of the court and jury. In such cases it almost always happens that the medical expert is chagrined at his own inability to supply the needed information, and the lawyer turns away with a very natural, but unwarrantable disgust for the boasted truths of medical science. The former is inclined to assume too much, the latter to demand too much. The fault is thus somewhat on both sides, more often on the side of the legal fraternity.

When one of the judges of the supreme court of Maine asserts that if there be any kind of testimony that is not only of no value, but even worse than that it is in his judgment that of medical experts, it is evident something must be radically wrong with the

methods of securing the testimony rather than with the testimony itself; for the judge's opinion represents a very small minority, and the medical expert as well as all expert testimony is admitted to be an increasing necessity year by year. And again, the New York judge who classified witnesses into liars, blank liars, and experts appears to me to have been less fitted to administer and interpret the law than the experts thus referred to by him were for giving reliable medical testimony. It is obvious that expert testimony is absolutely essential for the instruction of a court that is not sufficiently overwhelmed with its own egotism to imagine itself capable of knowing and deciding all the intricate questions of modern science and industry. It would have been far more becoming in the honorable judge, therefore, not to have attempted to oppose the inevitable but rather to have tried to correct the faults of modern expert testimony, which he will find if carefully examined, are the result of his own opinions and the enactments of his own guild. As Mr. Weil has recently said "the fact is, the average lawyer does not qualify himself to examine an expert, he qualifies himself only sufficiently to conceal his own ignorance; his selfishness is of that order which leads him so far as his own personality is concerned to exhibit himself to the best advantage before the jury." So disgraceful is this dispute between the lawyers and the doctors, that Maudsley suggests even the abolition of capital punishment, as one of the apparent means of softening its virulence. In the words of Mills "some of our learned judges are not without blame for this state of affairs. The decidedly antagonistic stand which they seem ever prone to take against reputable physicians in *habeas corpus* and other cases in which questions of medical opinion are at stake, has put the profession into such a frame of mind that in Philadelphia—and it may be the same throughout the country—many physicians now refuse altogether to make affidavit in cases of insanity." I once heard a lawyer of great prominence confess at the close of a society meeting in which an important medico-legal question had been discussed, that never before had he fully realized the difficulty there was in establishing medical facts supposed hitherto to have been fundamental and impregnable. He declared himself a convert and promised hereafter to be less irritable with the medical witnesses that happened to come under his examination in the court-room.

One undoubted source of trouble between the medical witness and the cross-examiner is that the latter, as a rule, limits himself to general hypothetical questions, and requires simple categorical answers, while the former can only speak positively of individual cases, and of these only in a general way. I was once asked if the condition of the blood produced insanity. Any medical man will recognize that such a question is unanswerable. It might produce insanity in one case and not in another. But the lawyer doesn't want such an answer. He demands *yes* or *no*. If applied to the case in hand, the medical expert would only care to say yes or no with full liberty to explain himself, if need be. Here is an instance, reported by Dr. Traill Green, of Easton, of the misapplication of an individual truth in a general statement, which reveals on the part of the lawyer one of three things—dense ignorance, profound knavery or ill-timed levity: In one of our insane asylums there was once a young man who did not believe that he had a stomach or bowels. He said that the food he ate flew out of the top of his head up against the ceiling. The lawyer for the patient said to the doctor, "Doctor, you know that there are a great many sane people shut up in these asylums." "No sir," answered Dr. Green, "I do not know any such thing." The lawyer then said: "You believe this man is insane because he does not know that he has a stomach. Don't you know that a man may be sane and yet not know that he has a stomach?"

In the mathematical sciences, all cases of a class fall equally under the same principle. Thus the laws of falling bodies apply to all bodies alike, both great and small, because the law is founded upon an unalterable basis. In the non-mathematical sciences, a broader interpretation has to be given to a general principle, so as to make it cover all cases of the same class. Physiology says that the number of heart-beats is seventy-six to the minute, and sociology affirms that all men are equal; yet we know that men can claim only a fictitious political equality, and that the beatings of their hearts are as varied as their dispositions. Morphology draws the picture of an archetype after which certain classes of animals seem to be patterned, and psychology teaches that the human intellect is composed of certain particular faculties; but not a single human being conforms to the archetype of morphology, or possesses the full complement of faculties that make up the psychological intellect. The circuits of the planets may be calculated to a fraction of a degree, but the amount of hydrochloric acid necessary in the process of digestion varies with each individual. Law itself is one of the uncertain sciences, and the variability of legal opinions is notorious. We speak of the *science* of law, and yet it is almost impossible to get two authorities to agree upon its simplest axioms. Our entire judicial system is founded upon the inalienable rights of man, but to this day no one knows exactly what those inalienable rights are. When our legal friends shall have affirmed for us the principle of States rights which will be applicable to all Governments alike, we will be able by that time to define for them the minutest boundaries of insanity. When they shall have defined for us so simple a thing as personal liberty, we will have reached a stage of knowledge that will enable us to give them a faultless description of the digestive process. Whatever has to do with the moral or physical nature of man is largely a matter of opinion, since the mobility of the subject renders the superstructural science unstable. It would seem, therefore, that their own disagreements would teach lawyers to make sufficient allowance for the disagreements of doctors. When a lawyer formulates a principle, he means that it is true in the main, but liable to many exceptions; so the physiologist and clinician affirm certain general facts, which, however, may not hold good in special cases. While each case that comes under a medico-legal examination must be studied by itself, the study will be greatly facilitated by the recognition, on the part of the court, of certain medical principles which apply in a general way to the case in hand. Our courts are too prone to refuse general statements, and to demand only categorical answers. It is obvious this must lead always to discord and disappointment.

We all know what an annoyance the *personal equation* has ever been to so exact a science as astronomy.

So different are the visionary powers of the observers of the heavens, that it is wellnigh impossible for them to make their calculations harmonize. Every variety of mechanical contrivance has been invented to act upon the eye and ear so as to render perfectly uniform the observations of two or more astronomers; but all in vain, for there is always a slight difference in their mathematical calculations, almost infinitesimal at times, which nevertheless manifests its influence, and is the result solely of the difference in the observers' physical constitutions. Yet we call astronomy an exact science, and rejoice that the personal equation is operative at least only on one side of the question, namely, that of the observer. In the sciences based upon the study of man, the personal equation is a more obtrusive factor, and exerts its unfortunate influence on the side of both the observer and the observed. Men are not machines for the conversion of food into force, as physiology sometimes metaphorically asserts. Even the involuntary functions of the organism, such as digestion, respiration and circulation, are to a large extent under the control of the mind. A wave of passion or a dream of pleasure will so affect them as to nullify all efforts towards the accomplishment of rigid comparisons. Man is apparently a free agent, and one would think he could sometimes place himself in a condition comparable to some previous condition; but even that is impossible, for both waking and sleeping he is subject to the vacillations of his own mind. Never can it be said that he is twice the same man. It is absolutely absurd, therefore, to assert or to expect positive physiological facts. The waves of the ocean never repeat themselves, and the waves of vitality oscillate with an ever changing movement. Anatomy is perhaps the most exact department of medicine, and yet the surgeon is rarely startled at finding an anomalous artery or a misplaced organ. The chemist has analyzed and solved the composition of the body, but a nervous shock or an inherited trait will at times overthrow the absolute truth of his nice calculations.

When we approach the examination of the body, both in health and in disease, and fix our reliance upon the answers of the subject in regard to his own subjective states, the personal equation rises into a mountain and we almost despair of ever being able to scale it. Sensation is one of the primary functions of nervous matter and yet in the examination of nervous diseases the sensory symptoms are almost valueless. Careful neurologists are only too glad to discard the sensory symptoms entirely, if by any possibility they can diagnose a disease through its motor or other signs. No two individuals, sick or well, experience the same sensation in exactly the same way. A slight pain is a terrible ordeal to one, while the agony of the rack is but a pleasurable martyrdom to another. Add to all this the influence of the personal equation on the part of the observer, and the wonder is that medical science has established as many positive facts as it has. So vast is the interval between an Albrecht von Haller and a Caspar Hauser, between a Mettus Curtius and a Charles Guiteau, that an almost limitless scope is afforded for the exercise of the personal equation.

All science therefore, in which this factor arises into such extreme prominence is largely a matter of opinion: and the greater the influence of the personal equation the wider the latitude for the differences of opinion. Hence, in my judgment, medical testimony should always be confined solely to the expression of an opinion. The expert should be given a verbal or written statement of the facts in the case, and his opinion asked merely in connection with the facts thus collected and presented by the court. In cases of insanity this will eliminate the personal equation factor from the side of the subject at least, and I fancy it will lead to a greater uniformity and accuracy of diagnosis between the several experts consulted. In some special cases it might be more desirable to have the expert confronted by the patient, but in a large number, perhaps the majority, this would be unnecessary if the expert were given a succinct and complete account of the subject's past history, actions and general mode of life.

While medical expert testimony is becoming more of a necessity every year, and experts are liable to be summoned into court to testify in regard to any medical matter, questions in regard to mental disease will probably continue to far outnumber all others.

It may not be true that insanity is increasing beyond the proportionate increase in the population; nevertheless, more cases of insanity are being brought to popular notice than formerly. This is explained in many ways. The modern recognition of insanity as a disease and not as a mere disgrace, coupled with the fact that better methods of treatment are employed by our modern asylums, is inducing families to send their afflicted ones away from home more readily than they would have done in earlier days. We hear therefore of many more mild cases that formerly were kept more or less secluded beneath the parental roof. In the second place the higher grade of our modern civilization and its keener intellectual competition illustrate in a more glaring manner the distinctions between sanity and insanity. Finer shades of mental disease are being recognized to-day than formerly. Eccentricities and irrationalities are awarded their proper credit in the sum total of mental equilibrium. While we need not go as far as Lombroso in his peculiar estimation of genius, we must nowadays, nevertheless, regard certain phenomena of genius as an evidence of mental deterioration rather than as a special favor of the gods. Superstitions and absurd beliefs receive less consideration at the present time because we now demand a more uniform distribution of the mental faculties as the proof of a well-balanced mind. A Nero or a Caligula would be assigned a cell in an insane asylum to-day much more readily than in the brutal period of the Roman civilization. The sanity of a Guy Fawkes or a Jean Marat would undergo a closer scrutiny than in the days of their notoriety.

Criminal insanity is quite a modern study and its development is largely due to the higher intellectuality of the nineteenth century. Finally our profound ignorance of the nature of mind as well as of its pathology in disease renders all questions in regard to it a luxurious field for disputation. To decide whether an individual is insane or not is so much more difficult than the decision of most other medical questions, that criminals hasten to avail themselves of the plea of insanity, and thus introduce more cases of this sort than any other into the courts. Lawyers come in contact with more forms of real or assumed insanity probably than any other variety of medical trouble. This is unfortunate for the maintenance of the highest estimation amongst our legal friends for ex-

pert medical testimony. There is no department in all science so difficult, so abstruse, so little known as that which has to do with the mind and its diseases. In fact we may almost say that with one or two exceptions we know nothing of mental *diseases*, for most of our knowledge in this respect has to do merely with *symptom-groups*. Typhoid fever, diphtheria and variola are positive entities, separate and distinct from one another. We are familiar with their symptoms and their underlying operative causes. But of the mental diseases, we only know certain combinations of symptoms, which, however, are rarely identical in all similar cases. We talk of mania, monomania, paranoia, melancholia and all their sub-varieties, but we rarely meet two cases that are at all identical, nor are we able to say what is the precise physical condition that gives rise to their respective symptomatology. This deficiency cannot be laid entirely at the doors of medicine, for all the sciences that relate to man are interested in the solution of the human mind. We say that the brain is the organ of thought, but as the brain is in more intimate connection with all parts of the body, it is a question whether the mind is not, after all, coextensive with the entire organism. A last analysis of the intellectual faculties shows that they consist of motor and sensory phenomena or their residual representations, so that the very existence of these faculties is dependent upon the present or past activity of the organs of sense and motion. Hence we not unfrequently have cases of delirium and insanity dependent upon physical causes quite remote from the cerebral centers, and mental diseases are thus seen to be the result often of well known physical ailments. The personal equation is especially here a momentous factor.

Add to all this the fact that the insane can and frequently do feign insanity, as Dr. Kiernan has shown, and the difficulty of these questions is tremendously enhanced. The *primaire verrucktheit* of the Germans, the *manie raisonnante* of the French and the *monomania* of Spitzka is the form of psychosis that is prone to feign insanity when accused of a crime, thus rendering the diagnosis of the primary trouble doubly obscure, because of the apparent rationality of the patient.

The whole question is immensely involved, and any dogmatic assertions will only result in a display of foolishness. This is one of the reasons why the insanity plea is so popular with the criminal classes. Lawyers, therefore, cannot justly demand, nor medical experts give precise definitions. Opinions only should be required in the present state of our knowledge, and these opinions should be considered merely as an incident in the trial, and not as an integral part of the testimony for conviction or acquittal. Having once learned the medical opinions in a case, the court should decide whether the individual is insane or not. If he is declared insane, he should be acquitted at once and sent to an asylum; if he is found to be not insane, all further trial as to his mental condition should cease, and he should be subjected to the same civil process as any other sane man.

The uncertainty of our knowledge in regard to mental diseases, and the greater value of medical expert testimony the more nearly it approaches an opinion, carry with them the conviction that the expert should be granted full liberty to express all that he knows and desires to say. One reason why expert testimony is so much of a sham under the present system of engaging it is, that the opposing counsel form practically the medical opinions for the court, and simply make use of the experts to support their particular views. It is proverbial that doctors dislike so much to go upon the witness stand that they often endeavor to shirk their duty in regard to signing certificates in cases of insanity that fall under their observation. They know beforehand that their utterances in court will be throttled, and warped, and misconstrued in every conceivable way, and in the end made to express the very opposite of what was originally intended. This was illustrated most forcibly in the trial of Guiteau. As Dr. Mills says, "the defense was conducted in such a peculiar way that only one of the numerous experts called was examined at any length. To most of them was put a hypothetical question, the chief point of which was the assumption that the homicide had been committed under the delusion of divine inspiration. No effort was made, except in the case of Dr. Spitzka, to elicit the special opinions of the experts for the defense or to obtain the results of their examination of the prisoner."[1] The whole trial reminded Dr. Channing of "what a trial might be if a patient with chronic mania were brought in from an asylum and tried for murder." And Dr. Barry, who claimed to know something of the inside working of the trial, said that Guiteau "was put through after the way they kill hogs in Chicago." It seems to me that this monstrous wrong can only be overcome by having the expert engaged by the court, for the purpose merely of instructing the court, and not in any other way to take part in the trial.

In conclusion, then, I would plead, under the present system of engaging expert testimony, for a broader latitude of opinion among the legal fraternity in behalf of the medical expert. Exactness is impossible in the present state of knowledge, and it is rendered even more impossible by the methods adopted for the examination of the expert. I would urgently favor, therefore:

1. The engagement of the medical expert by the court and not by the opposing counsel.

2. The giving of the expert testimony in the form of a written opinion based upon the facts of the case as collected and presented by the court; this being supplemented in certain special cases, and at the discretion of the court, by a personal examination of the prisoner by the expert.

3. The entire freedom of the expert to give a full and complete opinion to his own satisfaction.

4228 Greenwood Ave.

HEAT IN THE TREATMENT OF SYPHILIS.—Dr. Ausass (*Jour. des mal. cut. et. syph.*, January, 1892), presented before a society a young man, 17 years of age, who had become infected from a wet-nurse. From the age of 15 years on he had had a persistent headache, which yielded neither to mercury nor to large doses of iodide of potassium. Residence in a warm climate improved him a little. The doctor then ordered daily hot baths in combination with mercurial friction, and obtained a brilliant result in a very short time.

[1] Address before the Penn. State Medical Society. Transactions, 1882.

ABSTRACT OF AN ADDRESS,

Delivered at the opening of the Twenty-second Annual Meeting of the Medical Society of the State of California, April, 1892.

BY O. O. BURGESS, M.D., President,
OF SAN FRANCISCO.

VALUE OF MEDICAL SOCIETIES.

With the rapid advancement of medical science—due largely to the labor and experience of specialists in its various departments—the value and importance of society proceedings are becoming better and better appreciated and understood. In this connection it is gratifying to see how we, in this distant State, are keeping abreast of our more favored fellow-workers in and near the great medical centres of the East. Activity, intelligence, close observation and hard study are factors in our society work which are certain to make themselves felt, and which are sure elements of success.

ADVERTISING.

They who contribute most of valuable material to society proceedings are contributing most to their own professional honor and success. They are advertising their knowledge and ability to the profession; and every medical man knows and feels the value of the respect and good will of his professional brethren. He who would rise above the common level must not only have the requisite ability, but he must make known that ability to the profession, and to the public as well. These are times when the world moves with startling rapidity. The slow methods of former years, when only now and then a name and a reputation came up out of the murky level of mediocrity, have given way to the active and aggressive methods of to-day, by means of which vastly increased numbers force their way up to justly achieved notoriety and distinction. Given the talent and the education, the rest is done by hard work and advertising.

They who teach in the schools and clinics; who operate before classes and on-lookers; who write valuable treatises and intelligent articles for the journals; who read practical or interesting papers before societies, and who take an active and intelligent part in the discussions which arise there—all these advertise themselves whether they will or no. Through those who hear and see these things, and much more largely through the reports of the medical press, their names, their sayings, and their doings, are sown broadcast throughout the profession. In this way comes rapid distinction and success to those of recognized talents and acquirements.

Then, again, the daily labors of the painstaking and conscientious practitioner, who is careful to do his best for every case that comes to him, are an advertisement of his worth, which is sure to bring him reputation and work. To advertise, to keep one's self before the public, is as necessary to the physician as to any other man—and these are legitimate methods by which it may be done.

But now come, pushing themselves into the accepted order of things, other methods of advertising, which address themselves directly to the public through the daily press. The remarkable eagerness for news developed in the modern public mind, and the astonishing enterprise, activity and ingenuity displayed by the press in supplying the demand, has created, among other things, a singular and insatiable craving for what may be characterized in a word as personality in journalism; and, amid the innumerable interviews, notices and contributions of persons notable or notorious, the medical man finds a place with rapidly increasing frequency. The omnipresent and eager news-gatherer finds grist for his mill in reports of injuries, surgical operations and interesting medical cases, and it is only natural that he should often include the names of professional men concerned in these reports.

As society was shocked at first by the publication of matters held sacred to the domestic circle, and the circle of tattlers immediately surrounding it, so was the dignity and ethical sense of the profession highly offended by personalities such as have just been referred to. But the times are changed. Society is now indignant if the press fails to herald its doings to the world, while the profession has reached a position of half tolerance, half protest, as regards the publication of matters personal to its members; provided, always, that they appear in a proper way and in connection with items of genuine public interest as news. Otherwise they become, simply, poorly masked advertisements, and are apt to return, like the boomerang, to destroy their instigators. The true origin of the code of ethics, written or unwritten, is in the conscience of honorable medical men. Now, conscience is not a fixed quantity, and may be greatly influenced by environment, education and habit of thought. But, although changes in public sentiment may modify the interpretation of codes and creeds, it can never so alter our unwritten code as to render it permissible for a medical man to advertise, in the usual acceptation of that term. But the time will come, if it be not already here, when the discussion of medical subjects and medical men by the daily press will excite no more unfavorable comment than the discussion of other men and other things. Already there is hardly an issue of the great dailies that does not contain from one to many items of medical news, and I believe the day not far distant when their reportorial staffs will each include a regularly qualified medical man, in order to insure the proper conduct of this department of news-gathering. There is a popular demand for medical news and medical knowledge, and it is to the best interests both of the profession and the people that this demand should be properly supplied.

Education of the public in legitimate medicine is its best protection against the deceptive wiles of quackery. And the public press is the great popular educator. But the benefits of the publication of medical news by the daily press are not always to the laity alone. They are often reaped by the profession, and in a very valuable form. Take, for example, the history of Koch's tuberculin. After the news of its discovery had been flashed all over the world, the members of our profession fairly held their breath with eagerness and anxiety to learn every possible detail concerning it. And rapidly as those details were evolved in the great centres of experiment, just so rapidly were they known to the profession in every quarter of the globe. The very rapidity with which the reputation of this discovery was driven through its experimental stages to its death was largely due to the compelling power of the press, that often finds a way of forcing events for which it is waiting.

I am aware that I am upon delicate and debatable ground. And, in order that there may be no misap-

prehension of the statements I have made, let me repeat, that in my view, it is not now and never will be proper for a physician to advertise—using the term in its ordinary sense—and that to give out or to procure the publication of items which are rather vehicles of personal puffery than matters of interest as news, is the worst form of advertising, because it is masked and underhanded. On the other hand, personalities relating to physicians are appearing and will continue to appear in various forms, and, although still under protest, the tendency of professional sentiment is rather toward toleration of them, under certain restrictions, than the opposite. Finally the publication of proper and reliable medical intelligence by the daily press is rather to be encouraged than condemned.

A SECRETARY OF PUBLIC HEALTH.

In no department of medical science have the labors of the profession been more promptly recognized and more thoroughly appreciated by the public than in that of the preventive medicine. The disinterestedness of these labors is at once apparent, and their value is readily demonstrated by the results attained. So well, indeed, are their benefits understood that to-day the profession stands in an advisory, if not in an authoritative relation to nations, communities and individuals in all matters pertaining to the prevention of disease. In order to increase the efficiency of this work, and to render it more authoritative, there are two movements on foot to which I wish to call your attention. The first is now in the form of a bill introduced in Congress by Senator Harris, Chairman of the Committee on Epidemic Diseases, which provides for the establishment of a National Board of Health, to be under the control of the Treasury Department, and to consist of seven members; these members to be sanitary scientists, appointed by the President, by and with the consent of Senate, and to receive salaries of five thousand dollars each. Three medical officers are to be detailed from the Army, Navy and Marine Hospital Service, respectively, and a legal member is to be assigned from the Department of Justice.

The second movement, and one to which I wish more especially to invite attention, first assumed definite form in a report by a special committee to the American Medical Association at its last meeting. The report ended by asking the adoption of the following resolution:

Resolved, That the President of this Association appoint a committee to memorialize Congress at its next session on the subject of creating a Cabinet officer to be known as the Medical Secretary of Public Health.

This resolution was adopted and the committee was duly appointed. The report just referred to was a most able one, and presented very fully the reasons why such an office should be created, the duties that would pertain to it, and the benefits to be derived from it. Through the efforts of the committee then appointed by the American Medical Association to petition Congress, a bill has been introduced in the House of Representatives by Hon. Mr. Caldwell, which embodies pretty fully all that the committee asked for. It is believed that this bill will eventually supercede that of Senator Harris, above referred to. I am informed that these movements are attracting a good deal of attention in high places. Indeed, my attention was first called more especially to this subject through the publication in the *Medical Record* of the following extract from a letter written recently by Secretary Noble to Dr. Starling Loving, of Columbus, Ohio:

"Individual effort," says the Secretary, "has done wonders in detecting the sources of danger to communities, and the discussion of such discoveries has interested every household. But, liberal as the medical profession is and has, in our country, proved itself at all times to be, it is not fair or polite for us to leave it unsupported and nationally unrecognized. The international communication of intelligence that would follow the organization of a Bureau of Public Health would not only preserve our own inhabitants from many physical ills, but would greatly serve to strengthen the sympathy between all civilized peoples who would correspond and coöperate with us. They would feel the same beneficent influences of the system as we would realize."

These are brave words, and do credit alike to Secretary Noble's heart and head. The profession would be not only grateful for the recognition of its services, as proposed, but proud of the creation of a new goal of ambition for medical men in a Cabinet position as Secretary of Public Health.

In a letter just received by me from Dr. Loving, he says that Secretary Foster as well as Secretary Noble, Senator Sherman, and a large number of influential men outside the medical profession, are working for the bill, which leads to a feeling of some assurance that it may go through, although not without opposition from certain quarters. He adds that he has been informed the President favors the scheme; but how reliable that information may be he cannot say. I wrote to Dr. Loving that it seemed to me that if the State Medical Societies would each appoint a special committee to urge the subject of this bill upon their Senators and Representatives in Congress, it ought to be of material service to the movement. Dr. Loving strongly approved of this suggestion, and forwarded it to Dr. Comegys, of Cincinnati, who is chairman of the committee to memorialize Congress, and one of the most active promoters of the scheme.

I have referred to this subject somewhat at length, because I feel deeply interested in it; and I would suggest the appointment of a committee, or the reference of it to the Executive Committee, to give it consideration, and to report what action, if any, should be taken in the matter by this Society. The text of the Caldwell bill may be found in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for April 2, 1892. Since writing the above, I have received a letter from Dr. Comegys, inclosing copies of the memorial, and urging us to adopt it, and communicate our approval to our Senators and Representatives without delay. The urgency of the matter rests in the fact that Senator Harris has stated that the Caldwell bill cannot be favorably reported by his committee (the Committee on Contagious Diseases, of which he is chairman), but that he intends to push his own bill, placing everything concerning public health under the charge of the Marine Hospital Service. The doctor's comment is that Harris is opposed to giving any rank or proper dignity to the medical profession.

NATIONAL LAW, REGULATING PRACTICE.

In this connection, permit me to refer to another

subject, which has claimed considerable attention, and that is the need of a national law, regulating the practice of medicine. The principal object of such a law would be to secure uniformity of action throughout the States and territories. Indirectly, it might be made to regulate the standard of medical education to a considerable extent, and thus secure greater uniformity in the curriculum of the schools. A national standard, as to the requirements necessary to a medical education, would possess many advantages. An especial advantage would be obtained by making it sufficiently high to command recognition of American diplomas in all other countries of the world. These are subjects worthy of profound consideration and of intelligent action.

THE PAN-AMERICAN MEDICAL CONGRESS.

I am requested by the Secretary General of the Pan-American Medical Congress to call your attention to that movement. The constituent countries of the Congress include the West Indies and several islands of the Pacific, as well as most of the countries of North and South America. The first Congress will be held in the city of Washington, on the 5th, 6th, 7th and 8th of September, 1893. But it is required that contributors shall forward abstracts of their papers, not to exceed 600 words each, to the Secretary General, Dr. Charles A. L. Reed, of Cincinnati, Ohio, not later than July 10, 1893, in order that they may be translated into the various languages to be used, and published in advance, for the convenience of the Congress. The registration fee for residents of the United States will be $10. No fees will be charged to foreign members. Each member will be furnished with a set of the transactions. The organization of the Congress seems very elaborate and complete, there being no less than 21 distinct sections. I am pleased to note that our distinguished fellow-member and ex-President, Dr. L. C. Lane, has been honored with the representation of this State upon the Board of Trustees. If any action is required regarding the credentials of delegates to this Congress, it may be taken now or postponed until our next annual meeting. It is time, also, to begin to think of the next International Congress.

Our Committee of Arrangements admonishes us that brevity in our proceedings will be necessary to their completion. I will, therefore, set the example, and close with many thanks for your kind attention and indulgence.

LESIONS CHARACTERISTIC OF SYPHILIS IN THE FŒTUS AND INFANT AT BIRTH.

Read before the Milwaukee Medical Society, March 22, 1892.

BY L. BOORSE, M.D.,
OF MILWAUKEE, WIS.

The disastrous influence of syphilis on pregnancy, as frequently shown by the premature expulsion of the product of conception; the excessive fatality of inherited syphilis; and the unfortunate consequences which may be entailed upon the offspring that survive, make the subject one that, in the interest of the progeny of syphilitic parents, merits the special attention of the obstetrician. Carpenter states that of 657 syphilitic females, 231 miscarried, while 426 were delivered at term of living and dead children. Kassowitz asserts that one-third of all children procreated of syphilitic parents are stillborn, and 34 per cent. of those born living, die in the first six months of life. So frequently is syphilis a cause of non-viability and premature delivery, that whenever a woman repeatedly miscarries, or gives birth to a dead fœtus, suspicion of this disease in the parents may be entertained. In view of the fact that, in the absence of manifestations, it is often difficult to obtain a history of the disease in the parents, owing to the grave family complications that vague interrogations are liable to precipitate, and the reluctance of the original bearer of the disease to impart any information that might expose his or her affliction, as the case may be, and thereby compromise the future happiness of married life, the diagnosis of the disease from lesions presented in the fœtus or infant that survives but a short time, would at once establish the proper course to pursue as regards prophylaxis, for the rescue of children in subsequent pregnancies. The diagnosis of syphilis from lesions manifested in the fœtus may also become a matter of medico-legal importance, as in the following case that recently came under my observation: Mrs. K., an apparently healthy primipara, was confined at the full period of gestation. The child, after a few feeble respiratory efforts, expired. Its extremely emaciated condition and cachectic appearance indicated that it was profoundly affected. The skin was livid purple in color, and hung in folds. The body, extremities, palms and soles were covered with a bullous eruption. At places the bullæ had burst, leaving angry-looking erosions; those intact contained a sero-purulent fluid. The husband, having previously entertained a suspicion of his wife's chastity, was aroused by the appearance presented by the child, and demanded an opinion as to whether or not the condition was due to syphilis, with a view of instituting proceedings for a divorce if it was so pronounced. The diagnosis of syphilis in the fœtus and infant at birth leads to a consideration of the earliest manifestations of the disease. As the disease in the offspring bears a certain relation to the state of the disease in the parents, many children may not only survive, but even present at birth the appearance of health, and not until a later period of their existence manifest signs of the disease. In the great majority of those that survive, characteristic lesions of the disease appear within the first three months.

Miller, who analyzed one thousand cases with reference to the period at which the disease first manifested itself, found it to occur, in 64 per cent., in the first month, and in 22 per cent. of the cases in the second month. In 24 per cent. the first lesions occurred in the third week. Kassowitz, who analyzed four hundred cases, found the first lesions, in 53 per cent. of the cases, in the first month, in 32 per cent. in the second month, and in the remaining 15 per cent. in the third month. The disease, as it occurs in infants who survive for a longer or shorter period, presents lesions that closely resemble the secondary manifestations of the acquired disease in adults. There are few lesions manifested after birth which can be regarded as characteristic of the inherited disease.

Are there any characteristic lesions presented in those cases in which the intensity of the infection causes the destruction of the fœtus *in utero* or soon after birth? Cazeux says: "These children, when examined immediately after delivery, generally exhibit no lesions which can be attributed to syphilis,

though in some traces of the disease are evident." J. Lewis Smith quotes the experience of M. Culliner in evidence of the infrequency of syphilitic manifestations at birth; who in ten years' attendance at the Hôpital de Lorraine, met only two cases. Sevestre, who has prosecuted the study of the early lesions of inherited syphilis with special reference to the diagnosis of the disease in the fœtus, states that in some cases the lesions are sufficiently characteristic, but in the majority, the evidence would not justify a positive diagnosis. Barthélémy found no evidence of the disease, either macroscopic or microscopic, in fourteen out of twenty-eight autopsies on syphilitic fœtuses, although death was undoubtedly due to syphilis.

Hirst states that he has never failed to find in a syphilitic fœtus the characteristic bone lesions to which Wegner and others have called attention. The lesions found in stillborn children, and those that succumb soon after birth, may be divided into two groups: the superficial lesions, and the pathological tissue changes affecting the different viscera and bones. The lesion of the skin most commonly met with in the fœtus and infant at birth, is the bullous syphilide or pemphigus. It is regarded as a manifestation of grave import, and frequently coincides with profound visceral lesions that rapidly reach a fatal termination. The eruption generally occurs on the extremities, affecting particularly the palms and soles, where the blebs frequently burst, leaving angry-looking erosions that somewhat resemble the palmar and plantar syphilides of the acquired disease. According to Roese, 1876, pemphigus is always of syphilitic origin. Cases of non-syphilitic pemphigus at birth have been reported by Krauss, Desruelles, Hervieux and others. The bullous syphilide may exist as early as the sixth or seventh month of intra-uterine life. The syphilitic bullous eruption is distinguished from the non-syphilitic pemphigus by its situation, showing a predilection for the palms and soles. The blebs are smaller, and their liquid contents of a more purulent character; their bases also present a more deeply colored and irritable appearance.

The erythematous syphilide or roseola is also an early lesion, and may be present at birth. According to some writers, this eruption is very uncommon. It makes its appearance first upon the lower part of the abdomen, extending later to other parts of the body. It begins as oval, unelevated spots, of a pale red color, which disappears on pressure. These spots often coalesce and cover extensive areas. The pale red color is gradually succeeded by the coppery staining, constituting the so-called "macular syphilide." Bouchut reports a case of a seven and a half months fœtus with an eruption of a coppery color upon the legs and arms, with other evidences of syphilis. A diffuse erythema upon the soles and palms is regarded as very characteristic of this disease. When exposed to irritation, the erythematous patches are prone to become fissured, and may be converted into mucous patches. The papular syphilide usually develops at a later period *during the first weeks of intra-uterine* life, although its appearance at birth is occasionally observed. The papules are small, rarely exceeding the size of a millet-seed. In color they vary from a pale red to the coppery color characteristic of syphilitic lesions. The papules may be few in number, distributed over the trunk and extremities. The vesicular syphilide is a rare lesion of inherited syphilis, but is sometimes found associated with the early stage of the bullous eruption.

An aborted syphilitic fœtus is usually macerated, but this condition in itself is not characteristic; other evidence of the disease must be found before a macerated fœtus can be pronounced syphilitic. Birch-Hirschfeld, who has made a study of the lesions of syphilis in stillborn children, found that of the macerated fœtuses 70 per cent. presented undoubted evidence of syphilis. While the cutaneous lesions, if present, and the general cachectic appearance, may indicate syphilitic contamination, the most constant and characteristic lesions are to be found in the viscera and bones. The organs in which the lesions are most readily recognized are the liver, the spleen, the lungs and the thymus; other organs, however, as the pancreas, kidneys, and even the brain, may present syphilitic changes. Gubler, in 1852, gave the first authoritative description of the syphilitic lesions of the liver. The affected liver is always enlarged, and changed in color and consistency. The hepatic tissue presents the peculiar yellow hue and semi-transparency of flint. In consistency it is much harder than the normal hepatic tissue. When compressed between the fingers it offers a greater degree of resistance, and tears without allowing the imprints of the fingers on its surface. Its elasticity is also greatly increased. Scattered throughout the parenchyma are small, opaque granulations, which Gubler has compared to grains of millet. The opaque granular bodies can readily be seen at a considerable depth from the surface, owing to the semi-transparency of the tissue. The microscope reveals extensive proliferation of fibro-plastic tissue, enclosing the granular bodies, which according to Cornil, are formed by an aggregation of embryonic cells. Of the different organs, the spleen is most often attacked. It is always more or less enlarged; this enlargement, according to Dr. Gee, is due to simple hypertrophy with thickening of the capsule. Depaul was perhaps the first to give a detailed account of the lesions of the lungs. The disease manifests itself in these organs by the presence of indurated nodules or small spheroidal tumors, varying in size from a pea to a filbert. They may be disseminated or in groups; invading one or more lobes. The pulmonary tissue may be more or less indurated, due to a proliferation of the interstitial tissue, or the condition of lobular hepatization known as pneumonia alba may be present. The lungs in this condition are voluminous, filling the chest cavity, and bearing on their surface the impress of the ribs. In color they are gray or white on their surface, and on section. The condition is one of fatty degeneration. The alveoli being encroached upon, the lungs are impervious to air.

The pleura is always thickened and inflamed. The syphilitic change of the thymus gland, first recognized by Dubois, consists of the presence of pus in the parenchyma, without any apparent change in the color or size of the organ. The pancreas presents changes analogous to those of the liver. The organ is enlarged, its weight sometimes greatly increased, and in consistency its tissue is much firmer than normal. On section it presents a whitish, glistening appearance. Microscopically, the change is found to be a proliferation of the interstitial connective tissue, which may be so extensive as to compress the acini and destroy the secreting function of the gland.

In connection with the visceral lesions, effusions into the serous cavities are frequently met with. James Y. Simpson was the first to call attention to peritonitis as an indication of inherited syphilis.

The osseous system affords the most constant and characteristic lesions of the disease. The osseous lesions have been studied and described in detail by Parrot, Ruge, Wegner and others. These lesions may exist alone, and constitute the only manifestation of the disease. As seen in stillborn infants and those that survive but a little time, many, and frequently all of the long bones are affected. The long bones of the extremities, excepting those of the hands and feet, are most commonly attacked. The lesion is an osteochondritis, resulting in a necrotic condition at the line of junction of the cartilage with the bone. Osteophytes are sometimes found, deposited around the diaphysis of the long bones, and beneath the periosteum of the scapula and iliac bones.

In children who survive, other changes of the osseous system may supervene. The possibility of making a diagnosis of syphilis from lesions manifested in the offspring at birth, depends upon the intensity of the syphilitic contamination. In children that survive, the lesions presented at birth will rarely justify a positive diagnosis of the disease. In stillborn children and those that live but a short time, lesions characteristic of the disease may generally be found in the bones and different organs, particularly the liver, spleen and lungs.

DISCUSSION.

Dr. J. F. Tower: I had about a year ago sent to me an ovum, by a doctor out of the city, which was supposed to have been the result of a miscarriage by a syphilitic patient. I suppose most of you have seen the fœtus that it contained. The ovum had a very peculiar appearance. I have not seen very many ova at exactly that age, or in that stage; still, it was different from any I had ever seen. It was rough, nodular, very dark purple or bluish in color, blood-vessels very much larger than are usually seen, and the membranes so thickened that they were hardly transparent at all. The fœtus does not seem to be affected at all; I should say that it is possibly about nine or ten weeks old. The history of the case was something like this, if I remember correctly from a letter I received at the same time—that a young woman got syphilis from some of the neighbors, and about two months following the initial lesions of the syphilis she became pregnant by her husband, and ten weeks following she miscarried, and that is the product.

Dr. H. M. Clark: I would like to ask Dr. Boorse if there was a perfectly clear history on both sides of freedom from syphilis?

Dr. Ernest Copeland: I would like to ask the doctor if the placenta, in many of those cases, would not give us the desired information even where the fœtus does not, through examination either microscopically or macroscopically, or both?

Dr. Boorse: In regard to the lesion of the placenta, I think Zilles has made a special study of that, and in some cases has found lesions in the placenta.

The case that I stated had rather an interesting history. The husband was forced to marry the girl, and the child was born two months after marriage, and after his marriage the husband met an acquaintance, and this acquaintance chided him for having married the girl, and accused his wife of having given him syphilis. The matter was settled in court and the statement retracted, and all went well until the birth of this child, and the condition of the child aroused the suspicion of the husband, and he threatened to sue for a divorce. There were no lesions or evidences of syphilis in the woman at the time; at least, I could find no evidences of the disease.

The President: I would like to relate a case, unique in my experience. It happened a number of years ago, when I was practicing in the East, and it bears somewhat upon this subject, although perhaps not strictly in conformity to it. I attended a young married woman in confinement, who had been married about two years. She was highly respectable and of good social standing, as was also her husband. Her labor was normal in every way, the child was healthy apparently, but on the second day after the birth of the child, the husband presented himself at my office and complained of some difficulty of a catarrhal nature, and asked me to examine his nose, which I did. I found an ulceration through the septum—an opening—and considerable destruction of the cartilaginous tissues in the nose, and at that time I felt pretty positive in regard to such matters, and I surprised my patient somewhat by asking him the question, how long ago he had contracted syphilis? It was a pretty bold question, under the circumstances, to ask, but I felt so sure of my diagnosis that I thought the best way to get at the truth, and to get an acknowledgment from him in regard to the history of the case, was to act boldly. He looked at me for a moment, and finally acknowledged that about seven years before he had contracted syphilis. He had been treated for a number of years, and supposed he was well. He had not been treated for two or three years prior to this time, and had married and supposed he was entirely free from the trouble. Less than a week after that the child was completely covered with the syphilide, commencing, I think, if I remember rightly now, at the lower part of the abdomen and extending over the body, involving the palms of the hands and soles of the feet, with more or less coryza, snuffles. The child was put under mercurial treatment, and the man was put upon syphilitic treatment with iodides, and improved considerably himself. The child apparently recovered, so far as the acuteness of the lesions was concerned, and no appearance of the disease existed at any time in the mother. I could not detect any symptoms of the disease whatever in her case. The child was kept under observation and treated, and apparently thrived and did very well. The husband improved considerably, and his ulcerations healed under large doses of iodide of potassium; still his wife was entirely free from any symptoms. The case passed out of my observation and the family went to Nova Scotia. Shortly after their arrival there I was in communication with a physician in attendance on the family, stating that the husband had evidences of syphilitic ulcerations in the brain and was evidently beyond hope of cure, and in fact died a short time after that, and I think about two years after the birth of the child. No history has ever been obtained and none given by the physician in attendance, that the mother was ever affected in any way. The history of the child after that I do not know. To me it was an interesting case, and I would like to hear if any other members have met with similar experiences.

Dr. Copeland: It is a very unusual thing, and denied by some, that the disease is ever transmitted by the father without the mother being affected.

Dr. U. O. B. Wingate: It is unique in my experience.

Dr. H. E. Bradley: I attended three women in confinement, and each of the fathers had syphilis. One of the mothers had syphilis, and none of the youngsters had ever shown any sign of it, and I do not know as I ever saw a syphilitic child born yet.

Dr. F. Shimonek: I have three cases in mind now that are rather interesting. The first was a case of gumma in the palate of a man. He came to me with the soft palate affected and a perforation through the hard palate. He had three children, all alive and all well.

The next case was where a man contracted a chancre in the old country nine years ago. He was in the military hospital there, and treated for chancre. He came here and has been here now for several years. He came to me with a sore throat. I found a large gumma in his soft palate, just perforating through a little white spot there. I put him under large doses of iodides, and the whole swelling disappeared with the exception of that little hole, which remained there. His children are all well, and his wife is well.

The third case is more interesting still. It was that of a man who had a large family of children, every one of which is a perfect picture of health. He came to me with a sore in his hand from which he had suffered for two years—I think it was on the left hand. He had tried all sorts of things, and by the appearances, the color of it, with destruction of skin, I judged that it was syphilitic, and I asked him outright how long since he had had chancre? He said thirty years ago. I put him on big doses of iodide, and the thing disappeared in the course of a few weeks completely.

The President: Do you not fear a return of the disease?

Dr. Shimonek: Likely enough.

The President: That goes to show undoubtedly that in a good many constitutions syphilis is incurable, while in others it is very easily cured, perhaps.

SOCIETY PROCEEDINGS.

Philadelphia County Medical Society.

Plymouth Meeting, Montgomery County, Pa., April 13, 1892.

PRESIDENT JOHN B. ROBERTS, IN THE CHAIR.

Hiram Corson, M.D., read a paper entitled

PNEUMONIA AND ITS TREATMENT.

What is pneumonia? That question correctly answered, we will be prepared to treat it. Professor George B. Wood. of the University of Pennsylvania, one of the most accurate describers of disease and a practitioner of great eminence, to whose graphic descriptions of disease many of you have listened, says in his *Practice of Medicine*, that "pneumonia has three stages, and is universally applied to inflammation of the lungs. In the first stage the lungs are merely engorged with blood, and the air-cells partly filled with a seromucous, somewhat bloody effusion. In the second stage a plastic extravasation has taken place, and the cells are filled with more or less concrete and bloody lymph. In the third stage the place of the plastic secretion has been supplied by a purulent fluid." Dr. Wood was a truthful man, had great opportunities in the Philadelphia Hospital to see the condition of the lungs in the different stages described by him, for they may all be present in a lung at the same time, when the disease continues to embrace fresh portions of it. In that I doubt not he is correct. But as the subject which now engages our attention is one of great importance, I beg you to bear with me while I quote from another author. Dr. G. R. Martine, of Glens Falls, N. Y., in a paper read before the American Medical Association, in June, 1889, published in its Journal September, 1889—a paper remarkable for its accurate description of the disease as it exists in cases involving much of the lung, and for erroneous deductions in relation to treatment—thus speaks:

"The first abnormal symptoms, after the premonitory chill, is the quickening of the pulse and the consequent increased flow of arterial blood. Now, if we could take a microscopic view of the minute arterial ramifications in the lung structure, we would discern a distention in the caliber of the air-vessels in order to accommodate the augmented flow of blood; and if we would then glance at the veins we would observe the plasma layer rapidly filling with white corpuscles, and the walls of the veins, irritated by the friction of increased circulation, would exhibit, here and there, white corpuscles adhering to their tenacious sides and finally penetrating their walls. A glance at the capillaries would show not only the white, but also the red corpuscles forcing their way through the overstrained capillary walls until the surroundings become engorged by their extravasation, and hepatization has commenced." Now, if we bear in mind the condition of the lungs as described by the writers, we must believe that pneumonia is first a congestion, then an inflammation, and if that be not arrested suppuration takes place. Dr. Wood says: "It has been doubted whether a cure is ever effected in this last stage."

We are now brought face to face with the disease. Is there anything we can do to remove the congestion? The patient has been sick less than twenty-four hours, he is not yet expectorating bloody sputa, and many of the opponents to blood-letting say this disease cannot be aborted; that, like measles, it has a course to run, despite all interferences; that it is a constitutional disease, and that if we can prevent the congestion from being too suffocative, the inflammation from involving too much of the lung, we may let it run its course. The members of our profession are divided into two classes: those who believe that the disease may be aborted, *i.e.*, arrested in the congestive stage if early called, and in the stage of inflammation before suppuration has taken place; and the much more numerous class, who believe that it cannot be aborted; that a case, even if it be in its incipiency, must go on—should be watched by the physician, and shorn of its power to take life, but be allowed to go on until a crisis is reached after a positively fixed number of days. Physicians of the first class aim to relieve the overloaded and suffering lung by the abstraction of blood, by means of the lancet, from the veins of the arm: and those of the second class, who boast that they "never bleed" in any disease, depend on giving relief by reducing the increased action of the heart with medicines which have that effect. But the members of this latter class are greatly divided in opinion as to the proper medicine to be used to hold the heart in check; what one regards as being very useful and safe, another considers dangerous—more dangerous than the disease, and withal inefficient—yet all speak from experience, each one with his remedy. Experience is a harmful thing, as a reason for continuing to practice a certain course, unless it has been successful experience. It reminds me of a case: I had attended a woman in her confinement, and, as she expected to have the child raised by hand, as the phrase goes, and had read my paper on "Food for Infants," she desired me to speak to the nurse about her mode of feeding the child; so, when she appeared, I said: "Nurse, do you know how to feed a child so as to rear it without the mother's milk?" "Oh, yes! I have had experience in doing that; my sister had three that I had to raise that way." "Well, how did they come on?" "Oh! very well; one of them lived until it was six months old." Who among us but can look back on measures which we practiced, and which we believed indispensable because we had proved them, as we thought, by a long experience, but which we now see were not only useless but injurious. This, then, successful experience in the treatment of pneumonia is what we should follow. The absence of success, the fearful mortality attending the arterial sedative practice of the "no blood to spare" party; the immediate relief, the successful arrest of pneumonia by blood-letting, during a whole century, should cause the opponents to venesection to cease their abuse of those whose successful experience in the use of it has been testified to by some of the most eminent men of this city and of this country. A few weeks ago I was told by a gentleman holding a high State office, that a physician of whom he inquired concerning the recent death of a prominent man, replied: "Oh! he was murdered by blood-letting." Does this man, who speaks so boldly about a measure of relief of which he knows nothing from actual experience, who never used the lancet in his lifetime, denounce Prof. George B. Wood, Physic, Parrish and the elder Hartshorne, Chapman, Samuel George Morton, Ezra Michener, Prof. Henry H. Smith, the Atlees—John and Washington—Traill Green, Henry Hartshorne, Jackson of Northumberland, N. S. Davis, Prof. S. D. Gross, and hundreds of others who could be named, as conscientious as himself and far more truthful? We have borne this stereotyped abuse long enough. Look at the terror spread over the country now, when these numerous deaths of the best of our people are every day announced, though all were in the hands of practitioners skilled in arterial sedation. Let us now see what the opponents of blood-letting resort to, to save the sufferers from death in this disease. From what I have learned of the present teachings in our colleges, and by conversations with practitioners, the main object is "to keep down the pulse"—that is the phrase. To do this, the most approved medicine is the fluid extract of veratrum viride.

"The object aimed at," says Dr. Martine, "is to hold the pulse below eighty," and adds "*that* is not only what should be done, but what *must* be done to save life." I know full well *that* is not necessary. Scores of times, after I have

bled freely, with great relief to the patient and arrest of the disease, the heart, though tamed by the bleeding, continued its pulsations from 80 to 100 per minute, or sometimes even more, for two or three days, and yet the convalescence went on. Again he says: "With what remedies do I hold the pulse at this point (below eighty)?" and adds, "veratrum viride seems to have served one best." To this, Dr. H. A. Hare, who was present at the reading, replied: "A great mistake is made in saying use cardiac sedatives in pneumonia, without recognizing the fact that they are to be used only in the first stage, before congestion has gone on to consolidation; the man who gives such drugs at the middle or end of an attack of pneumonia, might as well stab his patient. Digitalis is to be used at such times." It therefore appears that it is only in the congestive stage that veratrum is to be used. If this be true—and doubtless it is based on experience—how many patients have been sent to their graves by this much used medicine! for well do we all know that it is the most used of all the arterial sedatives to keep down the pulse. And even Dr. Martine has peremptorily declared that it must be kept down, and that veratrum viride seems to have served him best. But it is not only Dr. Martine who disregards the stage of the disease, and uses it in all stages if the pulse be above eighty. I have long believed that nearly all the cases of pneumonia which terminated in death within four days, and I know several such, were hurried there by this patent and dangerous drug. Dr. I. E. Atkinson, of Baltimore, followed Dr. Hare, and said that "the use of veratria in the treatment was not new; it had been several years under trial, and had not received general acceptance." If Dr. Hare's utterances be true, then veratrum viride can scarcely be used at all without killing the patient, for a physician is seldom called until the congestion has passed into the second stage, when, according to Dr. Hare, you might as well stab the patient as to give it. How unerring must be the diagnosis, in order that this medicine may be given without risking the life of the patient. I have inquired of many of the "no blood to spare" class and have rarely found two that have the same treatment. Those who use aconite are afraid to use veratria, while the latter regard aconite as being more dangerous and less efficient. Those, too, who use digitalis are afraid of the two drugs just named, and those who give two drops every two hours denounce others who give large doses of it (10 to 20 drops, frequently repeated) as pursuing a most dangerous practice. Judging from the accusations made by themselves against each other, what safety is there to the patient? The answer comes in saddest tones from homes made desolate by dangerous arterial depressants. To the two classes of opponents to blood-letting spoken of, there are others which should have a passing notice; first, those who rely on the use of sulphate of quinine to keep down the pulse and to diminish the heat of the body. While quinine is, in malarial diseases, an unrivalled medicine and has done valuable service, it is useless, if not really most injurious, in the treatment of pneumonia and other inflammatory diseases. We should feel greatly indebted to Dr. Horatio C. Wood for the experiments which proved to him that even very large doses of that medicine cannot hold the temperature of the body at a low figure. There was so much stress laid on the importance of preventing heart failure, by keeping down the temperature by means of quinine above all other medicines, because of its tonic powers, that Dr. Ripley, the two Drs. Jacobi, and three other physicians of New York City made careful and repeated experiments to determine the value of the drug in that respect, and demonstrated beyond cavil that it is never useful, and often greatly objectionable—really injurious—in the treatment of pneumonia. I have often felt exceedingly thankful to Dr. Wood and the New York doctors for their careful and effective labors in that direction, and greatly amazed that, in the face of the assertions that quinine is useless in pneumonia to effect the purpose for which it is used, some persons still persist in its use. Many lives have thus been lost. The second class of those who fraternize with the arterial sedative practitioners is composed of the whiskey or stimulant practitioners—the physicians who see typhoid and blood-poison symptoms in almost all diseases. I will spend but little time with them. They are belated people, clothed in, and proud of, the cast-off garments of progressive physicians. Let us look calmly at this subject. Are there physicians here who can say that there are medicinal properties in whiskey or in brandy, which, in either large or small doses, warrant us in trusting the life of a patient to their action? It is a serious thing to experiment with human life. No means but those which have proved successful in numerous cases should be used when our patients are struggling for breath, and death hovering over them. There is nothing more saddening to me in the sick-chamber than to see a physician forcing alcoholic drinks on the dying patients, and yet it has been done countless thousands of times, and now ofttimes they are used in the very earliest stages of pneumonia. Dr. N. S. Davis does not believe them essential in any disease. If, then, arterial sedatives, quinine, and alcohol are not adapted to relieve the congestion and inflammation of the lung, which constitute pneumonia, is there any remedy for that now fatal disease? We know that there is, but not from an experience like that of the nurse already named, nor of another one, greatly experienced, of whom allow me to speak. I was called to a child, lying on the lap of a friend, "because she had had experience with such cases." I said, "The child seems very sick." "Yes," she replied, "it has summer complaint, and it will die." "How do you know it will die?" "Oh! I have had experience; I have had ten of them with it." "All your own children? did they all die?" "Yes." "Did you have the same doctor for them all?" "Yes." "Well, your experience is worth nothing." I treated the child, and, to her disgust, it was soon well. Her experience is a fair type of the experience of those physicians who go on with the same fatal treatment, lose one patient after another, and speak of "experience" in treating the disease.

But now a word about those who "murder" their patients by bleeding them. What are the objections urged against blood-letting? and by whom? The first objection is, "No one has any blood to spare." If this be true, then it embraces all other objections, and none need be named. This certainly means that in health, as well as in disease, the loss of an even small quantity of blood would be injurious to the loser of it. It means more than that—means, as is boldly asserted, that it is a permanent injury to the body, the bad effect of which is seen in the permanently weakened system of the person. Thousands of facts disproving this, and which are daily before our eyes, count for nothing. One would suppose that if half a dozen, or even one, of the respectable, truthful men here should declare that he had often bled persons in various diseases with the greatest benefit to them, nothing more would be needed to prove the falsity of the declaration, "No blood to spare"—a cry so senseless, so false, that no decent man should utter it.

The very first act of these objectors after the birth of a child in cases attended by them, is deliberately to cut the cord and waste two ounces of blood that ought to have passed into the body of the child.[1] But there is another objection urged, viz., that even in the earliest stage of the disease under consideration, though some relief may be obtained, no blood should be taken, lest it should leave the patient too weak to resist the exhaustion of a later stage—

[1] See Transactions of the Penn. State Med. Soc. for 1872, p. 154.

leave him in a condition in which even whiskey and rich food would, though *pushed*, not be able to save him from death.

Is it, then, dangerous to take blood from a pneumonic patient?

This is the cry and the charge of those who have never seen a patient bled, and yet who have known its safety and value to be testified to by some of the most eminent men who have ever lived in this century or preceding ones. In my last four papers, published in the *Medical and Surgical Reporter*, I have given a few cases reported by the Conshohocken doctors, which were bled freely, and were so successful that opposition to venesection should be silenced in those who read them. I will now speak of some seen by myself, and in doing so will present some views which I have long held:

On February 16, 1887, I was called to see a physician two days after an acute, serious attack of pneumonia. I found that he was under treatment by one "who never bleeds in any disease." He was expectorating the bloody, "rust-colored, prune-juice" sputa, a quantity of it being in the basin; had great oppression, and that peculiar sense of great weakness so constant an attendant in pneumonia when the obstruction to free breathing exists. I had to wait nearly three hours for the return of the physician, and when he did come he was opposed to bleeding, and refused to accede to it, but proposed that the patient choose whether or not he would be bled. The patient knew well our different modes of treatment, and promptly said, "I will be bled." I asked the doctor to remain, and, slipping another pillow under the sick man's head, I drew blood until I found the pulse yielding in *force*, and knew that faintness was approaching. Withdrawing the pillow to lower the head, I closed the vein and took a seat. In about ten minutes I inquired, "How do you feel?" "I am much relieved, I think it will do me great good." This was at noon. Went again in the evening; he was pretty comfortable, breathed much more easily, and had not coughed up the least particle of blood or rusty sputum since the bleeding. The distended blood-vessels were relieved of their fullness, and "the slow exudation from the inflamed vessels," spoken of by Dr. Wood, was no longer forced through their coats. Would one or twenty doses of arterial sedatives have produced that effect? Having bled my patient, what next did I do? Nothing, but told him that I would see him in a few hours.

And here let me say that, in the case already alluded to, when I saw by the papers that he had been bled, I said, "In all human probability he will die!" "Why?" was asked. "Because he was *timidly bled by one unused to venesection and fearful of it*, and because the other depressing, arterial, sedative treatment will follow it, and the patient will suffer from their poisonous, depressing effects."

To return to my case: When I saw the patient a few hours afterward I found him pretty comfortable. I directed one Dover's powder, to be repeated in the night, if need be, because of pain. Next day a mild diaphoretic was administered.

Two days after this a physician who, as a neighbor, had given much attention to his sick friend, asked me: "How do you find your patient?" I said: "He is well; he needs only a few days in bed to regain his strength." I left for home, and he went to the patient and said to him: "The doctor told me just now that you are well. What was it that cured you; was it that blood that came from your arm?" He replied: "The blood did not come from my arm; it came from here," laying his hand on the affected side. "I felt it going from here as it went into the basin." How strong this testimony, given by a physician who felt in his own person the relief obtained by venesection! How confirmatory, too, is this of the testimony of Dr. Gross, the elder, who, in a discussion had in the State Medical Society, illustrated the effect of venesection in this way: "Should a man have an inflammation of the conjunctiva, and the capillary vessels be so injected that the blood was of a deep red color; and then he, being in a sitting posture, should be bled largely, the blood would be drawn from the capillaries, and the redness disappear. Just so does it draw the blood away from the capillaries of the congested and inflamed lung." Veratrum viride in doses large enough to keep the pulse below 80, would not produce the least relief to the distended capillaries. Having bled the patient, if in a few hours there is not much relief, he may be bled again, if needful, and even more than once. But what of local measures? Do I approve of the poultice or the pads of cotton to envelop the chest? No. Two years ago, after my criticism of Dr. Wells' paper was published, an aged physician regretted that I had not spoken of the value of "the blister" over the affected part. The subject before me was only that of "Blood-letting; Its Value or Danger." It is the same now, but I may add here that the application of cloths dipped in ice-water is to the patient the most agreeable application I have ever used.

Despite the great length of this paper I beg of you to hear the utterances of one of our most eminent men to his students at his clinic in the University Hospital, and published in the February number of the *International Medical Magazine*, pp. 43, 45. Dr. William Pepper stated to his pupils at the clinic, that "the man of twenty-eight years had been well until ten weeks before his admission to the ward, and had during that time been treated by several physicians. On admission, November 5, his distress was extreme; he was unable to lie down or recline, and was obliged to remain constantly in a sitting position, but did not get relief from leaning forward." Then follows a long and interesting account of the illness and treatment; after which follows: "On November 7, the third day of his stay at the hospital, the symptoms were so alarming, with deep cyanosis, labored action of the heart, orthopnœa, and high fever, that I had him bled from the arm to the extent of twenty ounces. The good effect of this was immediate, and although cyanotic symptoms returned to some extent on the following day, a material improvement dated from the time of the venesection." Again the learned professor at great length gives his views of the case, and before closing his paper remarks, January 5: "He has continued to do well, and is now thoroughly convalescent. Before closing, I would call your attention to the extraordinary effect which followed the abstraction of blood. All of us who saw his condition before the bleeding, and watched the immediate effect of this, were satisfied that his life were saved thereby. I doubt if any other remedy could have acted so promptly and efficiently. It was the observation of such striking results, when bleeding was used in suitable cases, that gradually led our medical forefathers to rely upon it more and more in grave crises, until its occasional and legitimate use degenerated into almost promiscuous abuse. It is one of the tasks set before clinical medicine to-day to indicate with the greater precision, rendered possible by our improved methods of investigation and more full knowledge of the natural history of disease, the exact conditions under which this most powerful remedial measure is to be adopted."

Such are the recent utterances of the able editor of *A System of Medicine by American Authors*, in which is a paper by Alfred Loomis, M.D., Professor of Practice in the University of New York, who believes "pneumonia a constitutional disease, with a local manifestation," and regards blood-letting as a dangerous plan of treatment. Such, too, has been the views taught to large classes of students by Prof. Pepper until he made trial of the remedy. I sincerely hope that Prof. Loomis, too, will make a trial of it hereafter, and be induced, like Dr. Pepper, "to doubt that any other remedy could have acted so promptly and efficiently."

I cannot be too grateful to Prof. Pepper for his valuable testimony in relation to venesection, and for the hope which

he has given us, that hereafter he will not withhold this potential means of relief from those suffering in the grasp of this (now) too fatal affection. It is one of the most remedial diseases when properly treated; but when managed by arterial sedatives and their aids, stimulants and excess of food, a most fatal one. More than sixty-five years of careful, anxious observation of the effects of blood-letting in pneumonia have proved to me that it has no rival as a remedy for that disease.

Discussion.

Dr. William Pepper: I think great praise is due to Dr. Corson for the faithful and able manner in which he has kept before the profession the importance of blood-letting in certain conditions of disease, and especially in pneumonia. While not prepared to admit its necessity as a remedy in all cases, I must state that I find myself confronted—not rarely—with a group of symptoms indicating oppression of the heart, and approaching cyanosis, which yield to prompt and moderate venesection as to no other remedy. So that with continued caution, but, on the whole, with increasing frequency and confidence, I find myself resorting to it.

Dr. James C. Wilson: We must all regret the absence of Dr. Corson to-night; we shall certainly in the discussion miss his firm convictions, his ready retort, his wit, and the results of. his ripe experience in this matter, which for so long a time has been so near his heart. It is certainly most interesting to hear this paper, a continuance of a series of papers in which this determined, clear-headed man at the age of ninety years continues to uphold his position in regard to the treatment of pneumonia. In listening to the paper it has been impressed upon me that I am in neither of the camps referred to by Dr. Corson. I must indorse what has been said by Dr. Pepper in regard to venesection. We all recognize the occasional necessity for venesection in the early stages of croupous pneumonia. It often gives relief from urgent dyspnœa and pain, and sometimes even appears to save life. It cannot, however, be regarded as a specific treatment. It must be considered as symptomatic. I do not find myself in the camp of those who are prepared to adopt venesection as a routine treatment in pneumonia. On the contrary, I feel that my experience is opposed to this or any routine treatment.

I find myself equally out of place among those who rely upon the group of remedies known as arterial sedatives. I read from a paper [1] which embodies some views that I have expressed in regard to the treatment of pneumonia.

The paper speaks of various methods that have from time to time been largely employed and have gradually fallen out of use.

"In the same manner we condemn the treatment by tartar emetic in large doses, and with it is to be relegated to the limbo of discarded medicaments in pneumonia Trousseau's lauded *kermès*. The treatment by large doses of veratrum viride in the early stages, which still survives and finds in many quarters earnest advocates, is based upon the same antiphlogistic idea and has little to commend it. To add the depressing effect of a powerful drug to the pathological influences already depressing the heart is now recognized as increasing the danger of cardiac failure. In fact, if, as our knowledge of croupous pneumonia indicates, many of the symptoms are due to a toxæmia, it were better to bleed the patient, if he is to be bled at all, into a basin than into his own vessels. To depress the heart by veratrum viride or aconite in the first stage, and to harass it by digitalis at a later period are among the vagaries of a therapeutics which takes pleasure in vaunting itself as rational. To give cardiac depressants in croupous pneumonia is always of doubtful expediency, and digitalis as a cardiac stimulant should be administered only in response to special indications. Of the latter drug Brunton says, 'It is of little use in pneumonia.'"

The difficulty of determining the value of treatment in pneumonia, it appears to me, lies in our inability to estimate the part played by treatment in the ultimate results in a large collection of cases.

"Croupous pneumonia occurs with great frequency in connection with other diseases. It is not uncommon during convalescence from acute infectious processes. Those who suffer from chronic Bright's disease and from valvular and degenerative diseases of the heart and from organic diseases of the nervous system are especially prone to it. It not unfrequently occurs as the terminal condition in these affections and in other constitutional diseases, such as diabetes mellitus and pulmonary phthisis. Under these circumstances, it preserves, however, its own clinical and anatomical characters, and must be regarded, not as a mere complication of preëxisting pathological processes, to which it has no essential causal relation, but as an entirely independent intercurrent disease.

"When we consider the modifications of pneumonia under these circumstances and in the different periods of life from childhood to old age, and in alcoholic subjects, we are impressed with the uselessness of attempts to show by statistics the value of different plans of treating the disease. No general percentages of mortality can be relied upon as indicating the efficacy of a treatment unless they are on a large scale and in connection with a critical analysis of the condition of the patients. It is a question of the seed, which is probably always the same, and the soil, which is definitely modified. The only reliable test of the value of treatment is its effect upon the general course of the disease, a test which is much influenced by the personal equation of the observer. For this reason plans of treatment once in vogue, credited with surprising results in reducing the mortality of the disease, have failed to stand the test of time and have passed into disuse. And while the profession unites in striving after some specific treatment for other infectious diseases, the present drift of opinion in regard to croupous pneumonia seems by common consent to be in the direction of a vigilant expectancy with active treatment of symptoms as they arise.

"Whether we regard acute lobar pneumonia as a specific inflammation, or, in the language of the day, as an acute infectious febrile disease, of which the pulmonary lesions are merely a localization, we recognize in its causation three factors—a pathogenic bacterium, a predisposition, and an exciting cause—in other words, the seed, the soil, and the implantation. Nothing in the process is more obvious than its specific nature.

"Pneumonia cannot be regarded as a simple inflammation. This being the case, the antiphlogistic treatment of former times scarcely deserves discussion. Indiscriminate blood-letting as a routine treatment for a specific pathological process, the natural history of which shows it to be self-limited and of comparatively short duration, is not in accordance with modern therapeutic principles. Still less are repeated venesections and bleeding *ad deliquium*."

It seems to me that we are fighting over the old battles that were fought almost a century ago in regard to the antiphlogistic treatment of fevers. No one now regards typhus or enteric fevers as inflammatory diseases. No one regards scarlet fever as an inflammatory disease, yet we know that toward the close of the last century and in the early part of the present century, when fevers were considered to be varieties of *the* fever, fever was considered to be a manifestation of inflammation, and not only was its treatment by venesection discussed, but it was pretty generally practiced. Almost all physicians of a generation later than that of our distinguished friend have come to regard pneumonia as a specific infectious process. Nobody now holds that a specific disease should be treated by venesection. We have here to deal with a self-limited disease, a disease of short duration, and a disease which, in the majority of cases, tends toward recovery. To bleed as a routine measure is to add, in a large number of the cases that come under our care, the ill-borne effects of depletion to the debilitating influence of a specific inflammation attended with a depressing toxæmia. Therefore, it seems to me that it is scarcely worth while to oppose a plan of treatment based upon a conception of the pathology of the progress which is no longer tenable.

To bleed, however, for the relief of the dyspnœa, to bleed for the relief of the over-distended right heart, is not only clearly a duty in certain cases, but I believe that it is a duty which is often omitted to the disaster of the patient. I myself have had unfortunate results in the cases of pneumonia that I have bled. I have bled but few cases—they probably do not number more than four—and every case that I have bled I have lost. I have bled freely and without hesitation.

In the treatment of pneumonia we must pursue a plan of vigilant expectancy. I am opposed to the use of large doses of digitalis in the later stages, during the period spoken of as that of red hepatization, after the exudate has undergone coagulation and has established in one lobe or in the whole lung a marked obstacle to the circulation. It seems to me that the use of digitalis under these circumstances throws work upon the heart which is unnecessary, and tends further to harass it. In regard to the expectant treatment, the

[1] The Medical News, December 20, 1890.

whole history of the disease, viewed from the standpoint of its specific nature, seems fully to justify in the present state of our knowledge an armed expectancy; a method of treatment in which, on the one hand, stimulation is not practiced, and, on the other hand, depletion is avoided, in which there is relief of the symptoms with a use of proper hygienic measures, and the disease is allowed to run its course just as we feel obliged to allow the other specific self-limited infectious diseases to run their course.

Dr. J. M. Anders: In the first place I think that Dr. Hiram Corson is to be congratulated heartily upon the uniformly good results obtained from free bleedings, and, in the second place, he is especially to be admired for his courage in bleeding during these long years, indiscriminately, and without hesitation. Fow there are a great many men, it is true, who are not in the same camp with Dr. Hiram Corson. The speaker who preceded me stated that he was not in favor of indiscriminate bleeding, and that he bled simply for subsidiary reasons and purposes. In that opinion I heartily concur. But, gentlemen, the results of bleeding, as practiced by Dr. Hiram Corson, are certainly unparalleled for excellence; and, hence, it will not do to say that his cases got well in spite of the treatment, on the one hand, nor to say that these cases would have gotten well without treatment, on the other hand. It, therefore, seems to me that we are put to the task of finding an explanation for the good results of repeated large bleedings in the hands of Dr. Hiram Corson.

I have myself bled but very few patients with pneumonia. About ten years ago I promised Dr. Hiram Corson that I would bleed my pneumonia patients, which promise I have kept only in part. Soon after that I met with a case of sthenic type in a male about 40 years of age, with full, bounding pulse, flushed face, high arterial tension and marked nervous excitement. I withdrew about 20 ozs. of blood. This seemed to quiet the heart, diminish arterial tension and allay the nervous excitement, and the patient made a rapid and good convalescence. Some time afterward I met with another case in which I tried bleeding, but with a fatal termination. This case was not one of purely sthenic type, nor was it one, strictly speaking, of asthenic type. It seemed to occupy the middle place. I withdrew about twenty ounces of blood, and did not repeat the bleeding. Now, according to the remarks of Dr. Corson, I probably bled timidly. I saw a third case in which bloodletting was performed, in the wards of the Episcopal Hospital. This case was in the hands of a colleague, and I agreed with him that bleeding might be of some service, although the patient was practically moribund when the procedure was resorted to and it reached a fatal termination in a short time. The case was one of sthenic type, with more or less congestion around the seat of consolidation, which evidently had been followed by œdema.

The chief reason—at least so it seems to me—why Dr. Hiram Corson's results have been so regularly favorable, is the fact that patients living in the country and suffering with pneumonia, generally present the sthenic type of the disease; while, on the other hand, cases occurring in large cities like Philadelphia, very generally do not present the sthenic type, but rather the asthenic adynamic type. When a patient of the sthenic type presents himself, it seems to be far better to bleed than to give arterial sedatives—better than to give veratrum viride or tincture of aconite. The bleeding will most certainly quiet the heart's action, lower arterial tension and allay more or less the nervous excitement, and will remove a portion of the burden from the heart without robbing it of much, if any, of its power. It is true that veratrum viride and aconite will also relax the blood-vessel walls, will also quiet the heart, but all of the indications fulfilled by these drugs, and I say it without hesitation, do so at the expense of heart power. The same is not true of blood-letting—at least, not to the same degree. Veratrum viride and tincture of aconite, while relaxing the vessel walls, also act as cardiac depressants.

I gather in the next place, that Dr. Hiram Corson has had good results from blood-letting in the second stage of the disease. It is hard to understand how bleeding at this stage can be of benefit, unless, as Dr. Wilson has explained, under certain circumstances, we thereby relieve an over-distended and dilated right heart. On the other hand, it is to be remembered that in the second stage of pneumonia, as in the first, the fibrin factors of the blood are three- or four-fold what they are normally. Hence, under these circumstances, large bleedings, by diminishing this tendency, will lessen the liability to the formation of cardiac thrombi; and to my mind, cardiac thrombi are frequently the chief cause of a fatal termination. At all events, thrombi are followed by dilated right heart, venous stasis and death.

I do not believe that blood-letting exerts any good local effect in the second stage. The only way in which bleeding can affect favorably the lung is when we have such complications as congestion around the seat of consolidation, followed by œdema. Bleeding then acts according to ordinary hydraulic principles, and only in this way.

The method pursued by myself in the treatment of pneumonia is very briefly as follows, and in stating the method which I have pursued for a number of years, I shall perhaps bring out a few points bearing upon the paper of the evening. During the first stage of pneumonia, as I have said, I have bled a couple of times. My usual method, however, is to give morphine hypodermically, as recommended by Dr. Alfred Loomis, of New York. Perhaps the chief reason that I have not bled is because I have not met with a purely sthenic type of the disease. During the past winter I, however, saw two cases that apparently belonged to this type, but as they both followed la grippe, I was timid and did not bleed. Since they have died, I have regretted that I did not bleed them. I give morphine in doses of one-sixth to one-quarter of a grain, repeated every eight or twelve hours. Morphine fulfils several indications fulfilled by blood-letting: it quiets the heart's action, it relieves pain, it guards the heart, and at the same time gives rest and comfort to the patient. In addition to morphine, or if it does not suffice to allay arterial tension, I use local blood-letting, applying several leeches and withdrawing 6 to 8 ozs. of blood, and repeating this if necessary. If leeches be not convenient, I sometimes resort to wet cups, withdrawing about the same amount of blood. It is hard to explain the effect of local blood-letting on physiological grounds, yet of the efficacy of this method I am thoroughly convinced. It does diminish arterial tension and nervous excitement, and gives relief from pain.

In the second stage of pneumonia the indications, so far as the local trouble is concerned, are, it seems to me, the reverse of what they are in the first stage. In the first stage the blood-vessels are dilated, but in the second stage the blood-vessels are, as a rule, compressed. Their lumen is diminished. The obstruction to the pulmonary circulation is greater than in the first stage. In the second stage the indications are for the use of stimulants, but alcoholic stimulants should be supplemented by the administration of strychnine. Strychnine certainly fulfils certain indications not met by alcohol. Especially should we note its effect on the vaso-motor and respiratory centres. If strychnine and alcohol fail to relieve the heart, then I resort to digitalis. I do believe that digitalis increases the capacity of the heart for work. Since it slows the heart's beat, it also allows time for the heart to carry on its nutritive functions. When the digitalis fails to whip up sufficiently the flagging heart, and venous stasis goes on increasing, then I administer oxygen by inhalation. During the last stage I use the stimulating expectorants, and where resolution is delayed, nothing is better than turpentine.

I shall not take up the time any longer, but I wish to say, in conclusion, that the Society is indebted to Dr. Hiram Corson for having produced this paper, and for calling renewed attention to a measure which has been too much neglected in recent years.

Dr. H. C. Wood: I should not speak to-night, did I not think that there was great danger that, in the lack of clear thinking, we were perhaps losing lives. I do not propose to do more than to make a few comments upon what has been said by my friends Dr. Wilson and Dr. Anders. I am always afraid of rhetoric in a scientific discussion. When I hear of such things as a heart being "harassed" by digitalis, and similar expressions, I always begin to fear that the science is in inverse proportion to the rhetoric. Now, how can digitalis harass the heart? Much more, how can it exhaust the heart? You might as well talk of exhausting a starving man by a dish of broth, as talk of exhausting a heart by giving digitalis. Digitalis adds power to the heart. That is an absolutely proven physiological fact. It lessens the nervous irritation of the heart, and at the same time increases the length of the diastole, and the force of the systole; far from harassing the heart with digitalis, you quiet the heart that is already harassed by disease.

Then again, we have heard that the heart is laboring with an obstruction, and therefore we must not give digitalis. That is the very reason why we must give digitalis. You have one-fourth of a pair of lungs obliterated—that means that one-fourth of the lumen of the vessels is shut off, so that the heart must force the normal amount of blood

through three-fourths of the normal space. Of course, under such circumstances, the vessels and the right side of the heart must be oppressed. The heart is weakened by starvation and disease, and it finds itself in the presence of narrowed channels. Digitalis aids us in advanced pneumonia, because there is obstruction and because the right side of the heart feels the power of the drug. We know by clinical experience the value of digitalis. Statistics are fallacious, but there is a kind of test that is not fallacious. If you take a man dying with a feeble, thready pulse, scarcely alive, and raise him up with digitalis and get the long, strong pulse, and then take away the digitalis and see him drop; give the digitalis again and lift him up again, then let him drop again, and lift him up again, you have proof that the digitalis does control the circulation. You know that it does do good. Moreover, in advanced pneumonia, when properly used, digitalis has no power for evil. The real difficulty in its use in pneumonia is that somehow the high temperature interferes with its action. When there is high temperature in pneumonia, the heart muscle often will not respond to digitalis.

Now a word to my friend Dr. Anders. He spoke in regard to blood-letting and arterial sedatives, and said that you take the power out of the heart by arterial sedatives, but that you did not take the power out of the heart by blood-letting. Let us make an experiment: give a man daily doses of veratrum viride and keep the pulse down for twenty days, and then take a man and remove 20 ozs. of blood each day for twenty days—which heart would come up the strongest at the end of this time? It is essential, in the practice of medicine, to distinguish between depression and exhaustion. Blood-letting exhausts a man—it takes power out of a man. It leaves the man something less than before. Does veratrum viride take any power out of a man? It lays its hand upon the heart and vaso-motor centres, and binds them down with strong thongs. The man is there, and when the thongs are cut—*i. e.*, the depressant removed—he rises up as strong as ever.

Dr. C. McClelland: I should like to say one word from my personal experience. Something over two years ago I had an attack of pneumonia; both lungs were involved; the heart was depressed, dropping every third beat, and valvular murmurs were present. The mind was clear. I said to the physician in attendance: "This kind of thing cannot last more than twelve hours. Can nothing be done? How about digitalis?" He agreed to try digitalis. It was used vigorously, and in such large doses that one of my attendants remained all night to watch the effect. Inside of eight hours the beat of the pulse was strong, the intermissions had practically ceased, and the valvular murmurs had disappeared. I believe that had it not been for digitalis I should not be here to tell the story.

Dr. Judson Daland: I have been quite interested in the treatment referred to, but I think that the ordinary cases of pneumonia—as we all see them in the majority of uncomplicated cases—may go on to a satisfactory result. I have been much impressed with the fact during the last two years. In the first place, as has been said by Dr. Anders, when death occurs it is usually directed through the right heart. We have an increase in the amount of blood in the venous system and over-distension of all the veins and dilatation of the right heart, with death following from failure of the right heart. Four autopsies made during the past year showed this condition very exclusively. It seems to me very certain that if we abstract blood directly from the median basilic vein we directly drain the blood from the right heart and lessen venous stasis and take off the labor from the right heart and prevent death from heart failure. This, I take it, is an important indication for blood-letting.

Furthermore, as has already been said, heart clot is unquestionably accountable for many deaths. It has often been said that in pneumonia the blood had an increased tendency to coagulate. This fact has not been appreciated with sufficient clearness. About eight months ago I had occasion to examine the blood of several cases of pneumonia, and at the same time was examining blood from other diseases, chiefly diseases without fever, and I was strongly impressed by the fact that in every case of pneumonia, when I attempted to examine the blood it would coagulate in the capillary pipette with great rapidity, and it required special manipulation in order to make the examination. It seems to me that if the right heart and venous system is overfilled, a condition favoring the condition for this coagulation, I think that physical signs of dilatation of the right heart should be searched for, and that we should not wait until cyanosis develops. In two cases of pneumonia where the right side of the heart was dilated and the veins overfull, the physician insisted upon waiting for cyanosis. Cyanosis did develop, and at the same moment death occurred. I think that if the physical signs can be made out, and with it are associated symptoms, venesection should be promptly performed.

Dr. S. Solis-Cohen: I rise to call the attention of the Society to the usefulness of the nitrites in the treatment of pneumonia. Some of the remarks in discussion, especially those of Dr. Wood, might at once have suggested to those familiar with the physiological properties of the nitrites the great power that this class of drugs can and does have in the treatment of diseases like pneumonia. I am not speaking of the management of conditions directly dependent upon the specific poison of the disease, if there be such a specific poison, but of what may be done to relieve the embarrassment of the circulation from mechanical stasis due to obstruction in the lungs. Dr. Wood laid stress upon the fact that a large portion of the arterial conduit was wiped out, or better, blocked out. It seems to me an obvious inference that it would be highly desirable to increase the capacity of the remaining portion. Looking on the arterial and venous channels, pulmonic and systemic, as one continuous canal, it is theoretically clear that we must especially dilate the arterial portion in order that the whole volume of the blood may not accumulate on the venous side; and in order likewise to facilitate the passage of the blood through branches of the main canal collateral to those obstructed. The nitrites—nitro-glycerin, amyl nitrite, sodium nitrite—will dilate the peripheral arterioles, and will dilate the capillaries, increasing the capacity for blood of the arterial side of the circulation, and thus partially compensate for that portion of the arterial channel dammed out by the blocking of the vessels in the lungs. Pulmonic vessels are dilated as well as systemic, and thus the right heart is directly relieved of labor, and the danger of over-distention in large degree diminished. Respiration is likewise relieved, especially if oxygen be given by inhalation coincidently. I have seen this remarkably illustrated, not once or twice, but more than a dozen times within the last two years since my attention has been more particularly directed to the subject. This measure alone will not, of course, succeed in bringing about recovery in every case of pneumonia. There are other additional ends to be aimed at by the physician, and I had been hoping to hear attention called to one of them. The increased tendency of the blood to coagulation in cases of pneumonia was dwelt upon, but the value of ammonium salts in maintaining the fluidity of the blood was not spoken of. This subject is not at all new. It was long ago brought to the attention of the profession by the same great man that introduced the nitrites, Dr. Benjamin Ward Richardson, of London. Others had, perhaps, used ammonium carbonate and ammonium chloride before him, but he it was who laid especial stress upon the danger threatening pneumonitic patients, of death from heart-clot, and for that reason urged the early and free use of preparations of ammonia to prevent heart-clot by maintaining the fluidity of the blood. He also called attention to a useful method of administering ammonia in septic conditions associated with fibrinous exudations, namely, by giving the vapor of ammoniated chloroform.

I should like to add one word in regard to the rationale of blood-letting in selected cases of pneumonia. I have seen blood-letting do good by relieving the right heart of distention, and by diminishing the quantity of blood which the enfeebled heart has to push through the much diminished calibre of the vascular channel. There are two ways of taking a portion of its labor from the heart; one is to dilate the arterioles, thus increasing the vascular capacity and diminishing the vascular resistance—the agent used for this purpose being a nitrite—and the second is to diminish the quantity of blood which the heart is called upon to propel and the vessels to conduct. It has been said that the loss of twenty ounces of blood is a serious matter to the enfeebled patient. That depends on where the blood is, what its condition is, what it is doing. A portion of the patient is thrown out of functional relation, and a normal quantity of blood becomes relative plethora. It is of no good to the patient while it stagnates in his veins. It does not nourish him, and it does interfere with the passage of nutrient fluid into the tissues. He is a great deal better off without these twenty ounces if he is unable to make use of them, if they contain toxic products, if they are simply blocking the lungs and veins, and finally blocking the arteries. They antagonize the heart—first the right heart, then both sides; they do no good; they are not, to use Dr. Wood's comparison, liquid

food to nourish; they are liquid poison to kill, and the sooner the patient gets rid of them the better his chances for recovery.

Dr. A. E. Roussel: In connection with the use of digitalis it may be interesting to note the results obtained by Professor Pétresco, reported in a recent number of the *Bulletin de Thérapeutique*. He gives an analysis of over seven hundred and fifty cases in which he used large doses of digitalis —as high as two drachms of the leaves in twenty-four hours —irrespective of the stage of the malady. The mortality was a trifle over one per cent. He claims that the pulse-beats are reduced from 120 or 130 to 28 or 30 per minute, and the temperature also seems to be favorably affected, falling four or five degrees, besides which it is said that the entire course of the disease is jugulated in so short a time as three or four days. The publication of such a large series seems to require a careful study of the matter. We have all been in the habit of giving digitalis in the second and third stages of pneumonia, and this report would bear out the statement that digitalis and carbonate of ammonia are eminently satisfactory modes of treatment.

Dr. Ernest Laplace: I have been very much interested in the discussion, and was hoping that a few more words would be said on the etiology of the disease, so as to give some explanation as to the reason why there are sometimes sthenic cases and at other times asthenic cases, and therefore, why blood-letting would be in certain cases and not in others. We know, as was said by the first speaker, that pneumonia is a specific disease, that it needs a special soil, and a special seed developing in it. We know that the same seed, developing in a different soil, will produce a disease, but that disease is not necessarily the same in every respect. In the same way we plant a seed in different countries, and it will not produce exactly the same tree in each case. There are many different soils as there are patients suffering from the disease. As a result of the growth of the peculiar organism we have produced a toxalbumin, or, if you will, ptomaine, which in the patient acts as a heart stimulant, and we have a sthenic case. In such a case gentle blood-letting will relieve the heart of the extra amount of work. It will not cure the disease, and has no tendency to alter it, but makes it less grave than when the blood has not been removed. Where the toxalbumin is not so violent, or is not so abundant, or is of a different physiological action, the heart not being over-stimulated, the disease weakens the patient and blood-letting is not indicated. In such a case calm expectancy, with readiness to meet the symptoms as they present themselves, is the proper plan of treatment.

Dr. Frank Woodbury: I have been much interested in the discussion, but, of course, was particularly attracted, as doubtless many others were, by the paper of Dr. Hiram Corson. The experience of a physician extending over a period of sixty-five years is certainly one that we should receive with great respect, and especially when he possesses the recognized ability as a practitioner, such as that possessed by the author of the paper under discussion. While listening to the paper and the discussion, the celebrated advice of Chomel came into my mind, "to treat the patient and not the disease." We have been considering some of the dangers attending a case of pneumonia. The greatest danger to which the pneumonic patient is exposed, in my judgment, is to have a man for his physician who is so engrossed with treating the mental abstraction which he calls pneumonia that he cannot see the concrete needs of the actual individual patient who claims his care. I entirely agree with the last speaker with regard to the desirability of confining ourselves to the use of scientific language in a discussion of scientific questions, and the dangers to which we are liable from the abuse of rhetoric when referring to medical subjects. I wish to use only words of truth and soberness, and, therefore, will not speak of the heart "putting its shoulder to the wheel" under the influence of a remedy, nor as "harassed" either by a drug or a disease. Being rather deficient in poetic insight or the imaginative faculty, I will even confess that I could never see any "indication" for remedies. The word "indication" is not in my therapeutic vocabulary. Nature never "indicates" to me a drug or a combination of drugs in any morbid state. Experience has shown that patients may be benefited by certain remedies when judiciously administered, but we are not restricted to such drugs, and we are willing to abandon them as soon as others shall be discovered which will cure more "safely, quickly, and agreeably." This we could not do if Nature infallibly indicated remedies. The late Dr. J. Milner Fothergill called attention to the robust countrymen at Smithfield, and compared him with the pallid clerks and artisans thronging the London streets, and very justly pointed the moral that the line of treatment in these two classes in case of disease must be entirely different. Perhaps this will explain the success of Dr. Corson in a rural community, with his practice of depletion in pneumonia, a practice which our city physicians have been obliged universally to abandon. In spite of the advocacy of the great Dr. Rush and his successors, it has almost become obsolete with us. I think that perhaps we have done as much as we should do for the present in regard to the classification of disease, and that we should now begin to classify our patients as to the foundation of success in therapeutics. For instance, instead of dividing pneumonia into sthenic and asthenic cases, I think that it would greatly simplify the problem of treatment if we were to substitute the words plethoric and anæmic. It is easy to make a distinction between plethoric and anæmic patients. Sthenic cases are more likely to occur among the plethoric; asthenic cases among the anæmic. In plethoric cases, or even where the hyperæmia is local, blood-letting is a rational procedure, and when the symptoms are urgent, and do not admit of delay, it is practiced with advantage, as Dr. Corson has shown. We should not, however, bleed for the pneumonia; as has been already said, we should bleed for mechanical reasons. Where the symptoms are less urgent, we may decide to depend upon arterial sedatives and dieting to accomplish the same purpose. In regard to a typical case of pneumonia, by which I mean an ordinary acute lobar or croupous pneumonia, I might say that I do not recognize congestion as the first stage in the morbid process. Even the premonitory hyperæmia of Stokes must have something to precede it. It is certainly permissible to assume a nervous disturbance which causes the local hyperæmia; in other words, some efficient morbid influence acting through the vasomotor nerves of the affected lung and the cardiac ganglia, and causing trophic disturbances. The view is now generally held that pneumonia is not an inflammation, but a general disease, if not a "specific fever."

In a plethoric case, or robust patient, I should commence the treatment by that old-fashioned remedy, an emetic, and preferably ipecacuanha, because it is a fact that this emetic tends to produce anæmia of the lung. There is no better arterial sedative than an emetic, and this also quickens the functions of the skin and favors diaphoresis. This I would follow by magnesia sulphate in sufficient doses to produce several watery evacuations of the bowels. In this way, we relieve the over-distention of the blood vessels. We do not bleed the patient into his own tissues, but into his own bowels. Then I should simply give remedies to make the patient comfortable, and keep him upon a very restricted diet. If there is great restlessness, or too much cough, I would give small doses of chloral or bromide in preference to morphine. I remember a case where a patient was doing well under small doses of chloral and bromide. I was attending him during the absence from the city of another practitioner, who, on returning, took charge of the case and changed the treatment to Dover's powder, with the result that in the course of a couple of days the patient died. I think that many deaths in pneumonia are really due to opiates, and, in the beginning, they are inadmissible, just as in the early stages of bronchitis.

An anæmic case of pneumonia I should treat entirely differently. Here I should give restoratives and broths, and depend upon nursing more than upon medicines. I would give digitalis and quinine, and perhaps iron, but in such cases supporting the strength of the patient is far more important than any special drug, and bleeding is not to be considered.

As we know that a large majority of the cases of pneumonia get well under any and every form of treatment, we are tempted to echo the advice of Chambers with regard to rheumatism, to "cover up the patient with blankets and leave alone," which, in fact, is about what Jürgensen advises in pneumonia. Unless we have certain symptoms that give annoyance, pain, or suffering, I think that the vigilant expectant treatment advocated by Dr. J. C. Wilson in opening this discussion, not too actively interfering with the course of the disease, will give the best results in the greatest number of cases. When the emergency arises and the patient is suffering from acute plethora, or distention of the right heart, or overwhelming congestion of the lung, I should bleed just as if the patient did not have the pneumonia, but I would never bleed for pneumonia. The routine practice of venesection in this disease has never recovered from the death-blow it received at the hands of J. Hughes Bennett. At the same time, I can understand that the emergency may

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sometimes arise when the abstraction of a certain amount of blood will afford great immediate relief to the patient, without being followed by any serious consequences as regards the subsequent course of the disease.

Dr. John B. Roberts: It may seem presumptuous for me, who see comparatively few medical cases, to speak on this subject. I have, however, bled in a few cases of pneumonia. I now recall four cases, of which three recovered and one died. It is, however, not fair to the Society nor to statistics to quote these cases together. They are divided into two distinct classes. The first class contains cases of traumatic pneumonia, which I see in surgical practice. They are usually of the sthenic character, and in them at times the engorgement of the lungs, from acute traumatic pneumonia, demands depletion. The second class of cases in which I am inclined to bleed are cases similar to those spoken of by Dr. Anders, in which, in addition to a pneumonia, there is overwhelming of both lungs with what might be called œdema of the lungs. These are cases in which the presence of moist râles indicate that the smaller bronchial tubes, and possibly the vesicles where they are not filled with the croupous deposit, are filled with mucous or serous fluid, thus preventing respiration. The patient is cyanosed, gasping for breath, and *in articulo mortis*. These cases should be bled. I have bled two of them and one has recovered. The other two cases of my four already mentioned, were instances of traumatic pneumonia in which I think that there is no question that a moderate bleeding of from eight to ten ounces or less (I have never removed many ounces) was of service. One was a case of gunshot wound of the lung followed in about twenty-four hours with violent dyspnœa, orthopnœa, and all the symptoms of acute pneumonia. I at once bled and he was relieved; the symptoms disappeared and he rapidly recovered, notwithstanding the fact that he had a bullet in the chest. The second case was that of a man who had been run over by a wagon, had several ribs broken, a pneumonia following from punctured wound of the lungs by the ribs. He was bled with a satisfactory result. Of course, we must separate these cases into groups—those of traumatic sthenic pneumonia, and those in which there is overwhelming of the lung and the patient threatened with drowning in his own secretions. In the latter case the abstraction of blood gives the lungs an opportunity to be relieved, lessens the engorgement of the right heart, and permits respiration to be properly carried on.

Dr. George N. Highley: I have listened with a great deal of pleasure to the remarks that have been made, and I feel thankful for the favorable comments which this paper has elicited. With regard to pneumonia being a general disease, we differ from the many eminent men who hold that view. We do not think that this has been proven. Because it is accompanied by certain constitutional disturbances, is no reason for regarding it as a specific disease. We know that local troubles when similarly situated pursue like courses, and when extensive are accompanied by constitutional symptoms in proportion to their extent and gravity But whether we regard pneumonia as a local disease or as a local manifestation of a general disease, we must agree that the condition present demands relief by measures which will unload the lung and the right side of the heart, and we think that venesection does this with the greatest amount of relief and the least amount of depression. A word in regard to bleeding in the so-called asthenic cases. Out in Conshohocken we do not see such cases. We regard the condition as precisely the same in all our patients, whether robust or weak, or run down by disease. I know of one case, a woman with an ovarian tumor weighing sixty pounds, for which she had been refused operation. She was taken with pneumonia and her physician attended her for a few days; the disease had progressed to the second, and perhaps to the beginning of the third stage. Dr. Corson was called in consultation and advised venesection, which her attending physician had hesitated to perform on account of her great weakness. Twelve ounces of blood were removed with relief of the symptoms, and from that time she did not expectorate any more of the rusty colored sputa. That was a remarkable case and I could give the full notes if there were time. I refer you also to the case of Dr. Michener (*Med. and Surg. Rep.*, July, 1882), who, at the advanced age of eighty-seven years, and while suffering from a fracture of the arm, was attacked with pneumonia. He directed the attending doctor to "bleed until the pulse gives way and the respirations become easy without regard to what may be in the basin." This was done, and relief soon followed. The amount taken was ℥xv.

About bleeding in the third stage. Dr. Corson's idea is that there is always some stage of congestion in part of the lung. If you could conclusively show that the area first affected did not extend with each succeeding day, and that the parts involved simply went through the several stages without further extension, then it would be true that venesection would be harmful after the first or second stage. We think, however, that in every case and in every stage of the disease, until the crisis has been passed, new portions of the lungs are continually being involved, and for these new areas of congestion and inflammation blood-letting is of value.

Georgia State Medical Association.

Forty-third Annual Meeting, held at Columbus, April 20, 21 and 22, 1892.

FIRST DAY—MORNING SESSION.

The Association convened in Springer's Opera House, and was called to order at 11:25 A.M. by the President, Dr. G. W. Mulligan, of Washington.

THE ADDRESS OF WELCOME

was delivered by the Hon. J. B. Slade, Mayor of Columbus, which was responded to by Dr. J. B. Baird, of Atlanta.

Prayer was then offered by the Rev. Robert Harris.

President Mulligan delivered his

ANNUAL ADDRESS,

in which he pleaded for the abandonment of all unscientific methods of reasoning and investigation, and for a still firmer alliance with those principles which, in other branches of knowledge, have produced such brilliant results. He pleaded for less reliance on the blind gropings of empiricism, and a still closer affiliation with every method of modern science. He also pleaded for the exclusion of all fallacies, and the adoption of every safeguard which may indicate a wrong direction in our studies, and for the entire displacement of self in the investigation of life both in health and disease, and a concentration of all our powers in searching out and fortifying the laws governing the relation and succession of these phenomena.

Dr. J. M. Spence, of Waresboro, read a short paper entitled

A CASE OF OVARIAN CYST.

May 1, 1890, he was called in consultation with Dr. W. P. Williams, of Waycross, to see a case. Five years prior to his visit the patient gave birth to twins, attended, however, with great difficulty. An undergraduate attended her. Her health was apparently good until she became pregnant again, twelve months hence. The issue of the second pregnancy was triplets, the patient again enduring a state of prolonged labor and excruciating pain, under the supervision of the same quack. In about two months something began to grow in the region of the right ovary. It grew rapidly for about three years. After a careful examination an exploring needle was introduced, which on its withdrawal was found to contain a thick, dark straw-colored fluid, about the consistency of ordinary syrup. The legs and whole lower extremities were infiltrated with water, her tongue coated, and bowels costive, the infiltration being caused by compression of the tumor on the kidneys and ureter. They next took a measurement of the abdomen, which was 6½ feet, and from the pubes to the ensiform appendix the distance was 3 feet and 9 inches. Calomel, pulverized rhei, carbonate of soda in repeated doses, together with iron, strychnine and digitalis, were given for a few days. Six days later they met and introduced a trocar and canula through the walls of the abdomen, and through the aperture thus made there came 70 quarts (which seems almost incredible) of a thick, straw-colored fluid. The same treatment was continued at their second visit, two weeks later, and at this time 28 quarts of a similar fluid were withdrawn, together with something that looked like human brains. At a third visit, two weeks later, they drew 30 quarts of similar fluid, but the trocar

would frequently become choked with the brain-looking matter discovered after the operation. Ten days later the patient was seized with cholera morbus and died.

Dr. D. C. Hurt, of Columbus, followed with a paper on

THE INFLUENCE OF CIVILIZATION AND SOCIAL LIFE UPON WOMEN AS VIEWED FROM A MEDICAL STANDPOINT.

He said that while in the present day so much attention is being paid to the diseases peculiar to women, it is highly proper that we, as medical men, should dwell with serious thoughts upon the causes and conditions that bring about these results. It is the office of the physician to assiduously apply himself, 1, to prevent; and 2, to remove, as far as possible, all maladies that human flesh is heir to; but when we open our eyes fully to the conditions of 30 per cent. of our women of the present day, the fact stares us in the face that these evils are wonderfully multiplied.

A practical demonstration exists to-day by comparison of our savage and civilized women in America. While the Indian squaw is unacquainted with female diseases and broken-down constitutions on account thereof, our cultivated and civilized women are growing more and more intolerant of that life which pertains to their special duties as females. The Indian squaw lives in her hut and performs manual duties and undergoes hard physical labor, without any interference with her female nature, and by her the act of parturition is looked upon without dread, carries with it but little pain, and scarcely interrupts her duties from day to day. Our civilized and cultured women, if forsooth they arrive at healthy womanhood and maturity, are liable at each turn of life to become a prey to some one or more of the thousand maladies that eventually bring them under the care of the gynecologist. Why this change? The style of dress which exposes the body to the most inclement weather, producing reversions of cold and heat; the waist being tightly laced by steels, the body being kept in such a state of contortion that deformities result and produce deleterious effects upon parturient women, as well as disturb the functions of the whole organism.

With our present knowledge of antiseptics, we destroy those bacteria which lie broadcast about our homes, and arrest the germ-producing process already at work in the consumption of our bodies; and we should with equal dexterity and confidence in our skill, remove the cesspools of moral corruption, and elevate the mind to higher functions and duties of life-making, avoiding the reversions of sin which pander to depraved appetites, thereby guarding us against those depravities of our nature which tend to foster in us vitiated blood, whose domain it is to contaminate our whole being. We should guard our Commonwealth against the concealed viper discovered only by medical men, which lies ever and anon in our pathway, seeking anxiously every opportunity of injecting its venom into the moral and social veins of human life, thereby leaving in our systems that poison which is to be handed to our posterity as a defiled inheritance.

Adjourned.

FIRST DAY—AFTERNOON SESSION.

The Association reassembled at 3 P.M. The first paper read was by Dr. M. B. HUTCHINS, of Atlanta, entitled

THE RELATION BETWEEN SKIN DISEASES AND THE GENERAL HEALTH.

He dwelt principally upon eczema, because it is the best known and most common skin disease, comprising about one-third of all cases. We find nearly every type of skin disease is one or the other form of eczema; and so what applies in general to eczema applies to all the others. Two things were evident after reading the opinions of the various writers upon skin diseases:

1. We can be positive that all skin diseases are not "blood diseases," or the idea would have been universally accepted.

2. Their disagreement in some details and their general unanimity in other details shows that there is as yet much to be learned concerning the actual etiology of skin diseases.

The germ theory received scant attention in the paper, because the discoveries of skin disease-producing germs are as yet in a most decided condition of infancy, and the discussion of it would lead us farther into the dark than the necessities of the case demand.

THE TREATMENT OF ABORTION AND SOME OF THE COMPLICATIONS INCIDENT THERETO.

Dr. W. A. Crow, of Atlanta, read a paper on this subject. He emphasized the following points:

1. The marked tendency to infection in all cases of abortion.

2. The urgent necessity of removing, as far as possible, all sources of infection, this includes clean hands, clean instruments, cleanliness of person and bedding.

3. The importance of thoroughly satisfying ourselves in all cases of the complete removal of all the fœtal membranes and placental tissue.

4. Keep the patient under observation for at least two months, with the most favorable surroundings in order to complete involution of the enlarged uterus, building up the general health and keeping the bowels open, if necessary, with salines.

5. Be urgent relative to advice in avoiding the possibility of becoming pregnant for at least six months, as sexual connections produce more or less irritation and congestion of the parts and thereby retard, if not in a measure stop, the condition we most desire in these cases—the normal restoration of the parts.

Dr. H. Perdue, of Barnesville, read a paper on

THE TREATMENT OF PNEUMONIA WITH REPORT OF CASES.

Since the first of January, he had had, besides several of the lobular variety, 15 cases of the lobar. Three of the lobar class had one lobe of the lungs affected, four had two, seven had three, and one had four. This shows an unusual *pro rata* number of lobes attacked, yet he had not lost a single case.

In lobar pneumonia he uses peroxide of hydrogen with good effect. It is given for its germicidal properties, the oxygen it furnished the patients exhilarated and strengthened them. If it nauseates—and sometimes it does—the quantity should be diminished. He feels confident it has saved valuable lives. Throughout the stages of congestion and consolidation he gives phenacetine in five grain doses in connection with whiskey or milk punch every four hours, unless the temperature should get below 103° F. Good nursing is an important factor In the management of pneumonia patients. A nutritious liquid diet, such as sweet milk, beef tea and palatable broths should be given. In convalescence stimulating expectorants and tonics are indicated.

In catarrhal pneumonia, the supporting treatment should be given from the beginning. He generally gives carbonate or muriate of ammonia during the entire treatment. Quinine he considers a valuable remedy in reducing temperature, and as aid to resolution. Mild mustard poultices or blisters to the chest are valuable; also flannel cloths or jackets saturated with turpentine, diluted with oil if the patient is a child. Great care should be exercised in convalescence to prevent a relapse or a second attack.

WHAT IS GYNECOLOGY?

Dr. R. R. Kime, of Atlanta, read this paper. He briefly reviewed the progress made in gynecology, and said the

Father of Medicine recognized the sympathy existing between the mammary gland and the uterus, which he utilized by cupping them for uterine hæmorrhage.

Another twelve centuries brought us to the 19th century in which fads, fashions and cycles held sway as in the olden times. To illustrate: we have only to mention that a few years since everybody slit or divided the cervix; a few years later everybody sewed it up, and now everybody divulses or dilates, and drains.

A few years since everybody probed, or sounded the uterus, applied caustics to ulcers of the os. Now the sound is not often used and ulcers of the os are a nonentity. Within the last three or four decades the advancement in gynecology has been so rapid that it is difficult to keep in the line of march as the procession advances to new thoughts and new discoveries. Ovariotomy is about the only operation that has not been greatly abused or oft-resorted to without just provocation. It first had met with violent opposition, but to-day stands as an established procedure. The improved technique with lessened mortality are about the only improvements since the operation was first performed. The speaker was glad to see gynecology as fast approaching a scientific basis. In the last two decades, it has outstripped all other specialties of medicine in new discoveries and improved operative technique, thereby saving many of "God's noblest gift, the woman perfected."

He concluded by saying that the South had not been asleep, that she furnishes and has furnished her quota of active original workers in this specialty; that the Southern Surgical and Gynecological Association is maintained within her borders, and among her sons may be found such names as McDowell, Sims, Talliferro, and Battey, with many other eminent active workers in that line.

Adjourned.

SECOND DAY—MORNING SESSION.

Dr. A. C. Blain, of Macon, read a paper on

REMITTENT FEVER.

In persons exposed to the malarial miasm, it is a good plan to give daily doses of quinine (5 to 10 grains), each morning, and they should avoid night exposure. Should the practitioner see the patient in the prodromic stage of lassitude, furred tongue, foul breath, he believes that he can often prevent an attack of remittent fever by giving a mercurial cathartic, followed by quinine and a mineral acid.

Actual Treatment.—The patient should be put to bed in a well ventilated room. Patients require good nursing. Regulate diet, a fluid diet is necessary, and milk is the best to rely upon. The practitioner may have to boil the milk and give it iced, or he may peptonize it when necessary. He believes it best to give all nourishment in small quantities and at frequent intervals. In excessive temperature he relies upon phenacetine as the best drug at his command, in doses of from 5 to 10 grains, as the case may demand. The pain the limbs during convalescence can be controlled by phenacetine and salol. Convalescence will be greatly assisted by a tonic of nux vomica combined with nitro-muriatic acid and some one of the bitters.

Dr. W. E. B. Davis, of Rome, read a paper entitled

THE SURGICAL TREATMENT OF PUERPERAL PERITONITIS.

He said that puerperal fever was no longer regarded as a distinct affection, a disease *sui generis*, but is looked upon as a septic fever resulting from infection during the puerperal state. When quarts and gallons of pus are reported as having been removed from the general peritoneal cavity and recovery followed, he believes that the pus has usually resulted from a local collection, which has ruptured into the general cavity, and the operation has been done before sufficient time has elapsed for this amount of pus to result from the septic inflammatory process in the general cavity. It is easy to understand how a gallon of pus, which has been shut off from the general cavity by inflammatory exudations and adhesions, and which has only recently ruptured into the peritoneal cavity, can be removed and recovery follow, and it is not difficult, Dr. Davis thinks, to comprehend how this condition might be mistaken for acute, general suppurative peritonitis with a gallon or quart of pus as a result in the cavity, as the pus by its irritating properties will produce an inflammation which would be misleading; but the condition is quite different from what would be had if the pus had been the result of a general inflammation. Dr. Davis maintains that localized puerperal peritonitis with pus formation is a form of the disease that is amenable to surgical treatment. He had operated on cases where there seemed to be no hope of recovery, with favorable results. He had seen cases, where the pulse was 135, get well after an operation for the relief of this condition.

Frequently the fever from puerperal infection may continue for weeks where there is no pus formation, and in which the ovaries are greatly enlarged and the broad ligament thickened with occlusion of the tubes. He had operated on such a case where the tissues were so soft that his ligatures would cut through, and it was necessary to take up the vessels and ligate them separately. The ovary in this condition is as septic as if it contained pus. Frequently the masses felt in the pelvis following delivery or abortion are due to pelvic peritonitis, with adhesions to the intestine and omentum, and when an operation is made to evacuate pus we will often find that in the place of pus this condition is present, but where fever is kept up and the patient's condition shows sepsis it is wiser to open the abdomen, break up the adhesions, and remove the diseased appendages, which are keeping up the infection.

HOW SHALL WE MANAGE THE UTERUS AFTER ABORTION?

This was the title of a paper read by Dr. K. P. Moore, of Macon. He emphasized the necessity of clearing out the cavity of the uterus in cases of abortion, and by so doing it would be the means of preventing some of the troubles with which the gynecologist has at present to deal.

Dr. C. D. Roy, of Atlanta, followed with a paper on

COUGH—SOME OF ITS CAUSES AND TREATMENT.

After enumerating and dwelling upon the causes of cough, he touched upon the treatment. Every source of possible irritation should be found and removed. Hypertrophies were best removed with the galvano-cautery, and polypi should be thoroughly extirpated with the wire ecraseur. All septum deviations and spurs, when prominent enough to be a source of irritation, should be removed by whatever method the operator chooses.

The speaker called attention to a cough which is sometimes present about the age of puberty, seemingly dependent upon the condition of the reproductive organs or that of the blood. In *The Lancet* of December, 1890, Sir Andrew Clark cited several cases of this condition occurring in his practice in both boys and girls. Dr. Leaming, of New York, who has since called attention to this subject, has reported such a condition occurring in a young girl, suffering with chlorosis following an attack of mountain fever. The late Sir Morell Mackenzie has also reported such a case. That there is a close relationship between certain conditions of the reproductive organs and certain nervous phenomena in other portions of the body, no one will deny, for day by day the correlation of our bodily functions is growing in importance. Dr. John Mackenzie, of Baltimore, has called attention to certain nasal conditions coëxisting with a peculiar state of the reproductive organs, which from their constancy do not seem to be entirely fortuitous. In

all such cases the treatment must be general, the aim of the physician being to restore the body to as normal condition as possible by rectifying all morbid states in individual organs.

Adjourned.

(To be concluded.)

DOMESTIC CORRESPONDENCE.

"The Leprosy Question."

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

Sir:—In Prof. Blanc's lecture on "The Leprosy Question" reported in your issue of the 23d ultimo, he says that the Leprosy Investigating Committee sent out from London in Oct. 1890, have discovered the fact that *the germ of leprosy can be cultivated*. If the professor had closely followed up Dr. Arning's researches he would have learned that Dr. Arning made many cultures of the germ as early as 1884. So this is anything but a new discovery.

D. C. NEWMAN, M.D.

Spokane, Wash., May 2, 1892.

Monument to Prof. Gross.

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

I heartily approve of a monument to the late Prof. Gross, and regret that the project was not undertaken sooner. But I do not think that Washington is the most appropriate place for it. There we naturally look for the monuments of those who have made their mark in the army, the navy, and the government of the country, but not for the monuments of those who have been eminent in the medical profession in other cities. Washington is not a medical centre, and it seems to me, that Prof. Gross' monument would be entirely out of place there. It ought to be placed in the city with which most of his life and works have identified, namely, in Philadelphia.

If there are any of his pupils who sat under him for three years, as the writer did, who think differently, we should like to hear from them.

DOUGLAS GRAHAM, M.D.,

20 Dwight St., Boston, Mass., April 27, 1892.

To the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION:

In looking over THE JOURNAL of May 7, page 598, I note that Dr. Lester, of David City, Neb., calls attention to a "delightful odor not unlike that of the tube-rose" which he observes after taking a dose of acetanilid. You state that it is "undoubtedly an idiosyncracy or a phenomenon having a limited range."

I can confirm in my own case Dr. Lester's statements, having frequently noted the odor, and having called the attention of others to the fact, and have had them to confirm my discovery. I have, furthermore, frequently stated to other practitioners that I knew that antikamnia contained acetanilid because this peculiar odor developed after I had taken a dose. None of the other phenol derivatives showed this odor.

T. J. HAPPEL.

Trenton, Tenn., May 7, 1892.

NECROLOGY.

DR. D. R. BALL, of Nelson, Neb., died April 11, 1892, at the age of 67 years. He had practiced medicine for forty-four years, twenty-five years in Iowa and nineteen years in Nebraska. He was a member of the Nebraska State Medical Society, and also of the American Medical Association. He was thoroughly a Christian physician.

WILLIAM H. BRADLEY, ESQ., of Chicago, recently deceased, has left us an example that embraces the sum of the virtues of the most advanced Christian civilization, as represented by industry, temperance, frugality, simplicity, purity, uprightness and public spirit. The entire community—but more especially the medical profession—is under weighty obligations to him for his influence, together with that of his associate trustee of the Newberry Library, E. W. Blatchford, Esq., in establishing the medical department of the library. The members of the Chicago Medical Society feel it a duty, as well as a pleasure, publicly to express their sense of gratitude for the enlightened generosity with which the trustees of the library have acted in this matter. Although the medical department of the library is yet in its infancy, enough has been done to give assurance of its final perfection. The full fruition of this work is not for us, but if it is carried forward in the spirit of its inception, its benign influences will extend to future ages, and bless generations yet unborn.

(Signed) Committee, EPHRAIM INGALS, M.D., F. C. HOTZ, M.D., R. D. MACARTHUR, M.D.

Chicago, May 5, 1892.

ON THE INFLUENCE OF THE INFLUENZA ON THE GROWTH OF TUMORS OF THE FEMALE GENITALIA. By Carl Leclerc (Inaug. Diss., Strasburg, 1891).—The writer reports on nine cases of large pelvic tumors which came under observation in the Gynecological Clinic of Strasburg during the summer of 1890. In the previous winter all the patients had suffered severely from the influenza. The tumors had lately grown with unusual rapidity. The nine cases were: two subserous myomata, four ovarian cysts, two cases of generalized carcinoma of the ovaries, and a case of widespread carcinoma of the abdominal organs, the origin of which could not be accurately made out. Leclerc considers he is justified in assuming that there is an etiological connection between influenza and the rapid growth of the tumors, which were in some cases enormous. The patients a few months previously, that is, before the attack of influenza, were not even aware of the existence of the tumors. In all cases the genitalia were very congested. The congestion of the pelvic organs accompanying influenza (and other infectious diseases), and which is present for some considerable time after the attacks, is the cause of the rapid growth of the tumors. Moreover, the great prostration in influenza lowers the vitality of the cells, and the tumor, being no longer held in check by the resistance of the surrounding atmosphere, grows in all directions at the cost of those normal tissues.

The author also mentions a case of tubercul. genital. et periton. in a young woman of 20, which was only diagnosed after an attack of influenza, and which ran a rapid course. —C. Th. Eckhardt, *Centralb. f. Gynäkologie*, No. 6, 1892.

THE COST OF AN EPIDEMIC.—Dr. Thresh, the medical officer for the county of Essex, having obtained full returns of the late epidemic of influenza, estimates that no fewer than 450 persons died under the immediate attack, and that no fewer than 1,400 deaths occurred in the county from its direct and indirect influence. The monetary loss for the two months during which the epidemic prevailed he states at not less than £50,000, on the basis of the loss of wages of adults calculated at 12s. a week. He adds: "I am, however, afraid that had the county suffered from an epidemic among cattle, causing in the time the same number of deaths and inflicting the same pecuniary loss, the alarm produced would have been greater and more permanent."—*Brit. Med. Journal.*

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa., sending him a certificate or statement that he is in good standing in his own Society, signed by the President and Secretary of said Society, with five dollars for annual dues. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership. On receipt of the above amount the weekly JOURNAL of the Association will be forwarded regularly.

SATURDAY, MAY 14, 1892.

RAILROAD RATES.

As the last form of last week's issue of THE JOURNAL was going to the press room we received information that the Central Traffic Association had granted our request for a single fare for round trip tickets to the Detroit meeting. The importance of this can scarcely be overestimated. As it actually means, to go or not to go on the part of very many who would like to attend the great Annual Meeting of our National Association. To others it means an ability to take a wife, or perhaps an entire family to see one of the most beautiful cities on our Continent.

To the medical profession of Detroit and the whole State of Michigan, it means an additional enlargement of an already expanded heart. Of this trouble we are not lying awake at nights and worrying about. Neither need our readers give themselves undue anxiety, for the real genuine simon pure Michigan doctor is capable of great things, when his hospitality is attacked in front, rear and on both flanks at the same time.

The Michigan and Central Traffic Associations have shown themselves as willing to do the right thing in their grants. We have made similar appeals to each of the other Traffic Associations and think we have good ground to believe we are being heard favorably. We don't say thank you to one of them for a rate of a fare and a third, that goes to every little gathering or wandering troupe, while the single fare belongs to great National Associations, where there is an attendance of more than six hundred. Hence, our reasonable and just claim. Not to grant the request is a discrimination against the American Medical Association that will call for adjustment by the Inter State Commerce Commission.

The territory of the Michigan Traffic Association is bounded by the lines of the State, that of the Central, by points on the Ohio river, Mississippi river to the Ohio, the great lakes and reaches as far east as Buffalo. To these organizations our hat is off and our very best bow is made. They have made friends with thousands of educated men, who were in a condition of irritability that would not be soothed by any other emollient than the one so judiciously applied. Let every doctor and his wife join the procession and go to Detroit. Never before has there been such a meeting as this will be.

THE SECTIONS.

A letter from the chairman of the Committee on Program, says that this little document is prepared so as to give every Section a morning and afternoon session for every day except the first, which has but the afternoon session. This arrangement he says is actually necessary, on account of the number of papers announced to him by the officers of the several Sections.

Physicians who are preparing papers to go in as volunteer contributions should this week send their titles to the Section officers, as the programs are nearing completion. Arrangements are also made for reports of discussions. The discussions will be submitted by the reporters to the officers of Sections for revision for publication. This work should all be in final shape for THE JOURNAL and in the Editor's hands at the earliest possible date after the meeting.

The professional reports of this occasion will faithfully reflect the progress of science and art as related to medicine in all its various departments. This is all beneficial to the man who reads, but doubly and trebly useful to the man who goes and hears what is read and discussed.

STATE SOCIETIES.

It is exceedingly gratifying to hear of the meetings of these organizations this year. Never before were they so large or the professional interest in their proceedings so manifest.

In fact, there seems to be a great tidal wave of professional enthusiasm abroad in all the land. Men are in attendance this year who never were at such meetings before. Not only are they present but are taking part in the work that is before the societies.

During the past week it was our pleasure to be present at the first sessions of the Ohio State Medical Society. We could not help but make a comparison of this large gathering of physicians from all parts of the State, with meetings that we attended in bygone years.

The growth of culture and attainments in our art was manifest on every hand. While the seekers for new knowledge seemed to be individualized in every member. The local profession of Cincinnati highly honored themselves in their attention to members from other parts of the State. We scarcely met a doctor at the meeting who did not announce his intention to go to Detroit along about the first of the first week in June.

From Cincinnati we went to the Louisville meeting of the Kentucky State Society, where the greetings of the Ohio Society had just preceded us. We found one of the largest State Society meetings in session that it has ever been our privilege to attend.

The papers were timely and the discussions excellent.

It goes without saying that the Kentucky doctor has a stimulus in State pride that is not always possible to be present in other States. From the earliest memories Kentucky has been the home of giants in medicine, the home of McDowell, Coleman, Drake, Dudley, Todd, Flint, Gross, Miller, the Yandells, Jackson, and a host of men whose equals were few and superiors without name. These were the men who set the pace for those who were last week at the Louisville meeting, and right bravely was the step made to the front that told of the thoroughbred race to which the present Kentucky physician belongs.

The hospitality of the occasion was just what any one might with reason expect. We will say it was wonderfully like the intellectual treat we enjoyed—rich, rare, and the measures full to overflowing. Louisville alone will require not less than two cars to carry its delegation to Detroit.

* * * * *

The single fare round trip rate will save from five to ten or more dollars to every physician who lives within the territory of the Central Traffic Association. It isn't an act of prudence to talk about this or mention it to your wife, unless you seriously contemplate allowing her to have just as good a time as you expect to enjoy when you go to Detroit.

* * * * *

DR. H. O. Walker, of Detroit, is chairman of the local Committee of Arrangements. The other members of the Committee are constituted of the entire list of the Michigan State Society, every one of whom will wear a button, especially designed for visitors to press on this occasion.

COMMITTEE ON PUBLICATION OF PROGRAM.

Dr. George Duffield, 25 Washington Ave., Detroit, is Chairman.

* * * * *

COMMITTEE ON REGISTRATION.

Dr. David Inglis, Chairman, C. W. Hitchcock, Angus McLean, S. G. Minor, Don M. Campbell.

Members who appreciate the value of time will correspond with either of these gentlemen and register before the meeting. The idea is a good one to act upon.

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COMMITTEE ON HOTELS.

W. G. Henry, Chairman, A. E. Carrier, O. S. Armstrong, W. F. Metcalf.

Delegates who are strangers in Detroit will do well to secure rooms by corresponding with any member of this Committee. This is also a time saving suggestion, which should be acted upon without delay, as it tends toward peace of mind.

The Detroit Hotels are:

Russell House,	Cass Ave. Hotel,
Hotel Cadillac,	Hotel Renaud,
Hotel Normandie,	Queen Elizabeth Hotel,
Wayne Hotel,	Rice's Hotel,
Griswold House,	Hotel Goodman,
Hotel Tacoma,	Griffin House.

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COMMITTEE ON EXHIBITS.

H. O. Walker, Chairman, F. W. Mann, and C. G. Jennings.

* * * * *

If there is anything our readers don't know about, and of which they are in search of knowledge pertaining thereto, just write to Drs. H. W. Longyear, W. B. Sprague, or C. P. Frank, for they constitute a COMMITTEE ON INFORMATION.

* * * * * *

A CABINET OFFICER OF PUBLIC HEALTH.

Resolutions requesting Congress to pass the bill creating this officer were unanimously passed by the Ohio and Kentucky State Medical Societies.

In the medical profession there is no division of sentiment on this subject; members of Congress should feel it, and act accordingly.

DIGITALIS IN HEART DISEASE.

There has always been much discussion as to the proper use of digitalis in valvular disease of the heart. Perhaps such difference of opinion is inevitable, but several recent writings have shown some unanimity. The sole use of digitalis is to restore compensation. It has no mysterious influence in building up a weak heart. It contracts the arterioles and causes an increase in the force of the cardiac contractions. In this way an increase in the arterial tension is produced, and a steadier flow of blood through the capillaries occurs. The steady flow through the capillaries insures the proper supply of oxygen and other food to the tissues, and thus diminishes dyspnœa. The steady flow and high tension overcome the tendency to dropsy. Thus it happens, that the cardiac compensation is restored by digitalis. Increasing experience tends to show that the objections urged against the use of digitalis in aortic disease are without real foundation. The reputed dangers of digitalis because of a supposed cumulative action, have not been confirmed.

Digitalis should never be prescribed merely because the patient has a heart murmur, but only to restore disturbed compensation. It should never be withheld merely because the lesion is an aortic insufficiency. Of all the drugs of this class, digitalis is the best, indeed is the only one to be relied upon. The dose is whatever quantity is required to restore compen-

sation. But even digitalis does not always produce the best results. Not infrequently it acts too slowly. When the rhythm of the pulse is badly disturbed, when its rate is irregular, and its volume fluctuating, when the ear to the chest detects the stumbling heart, then opium accomplishes wonders. For instance, when compensation is badly disturbed in mitral stenosis, and an incompletely filled left ventricle vainly contracts, and the heart stumbles and flutters in its efforts to do its work, opium is the remedy which gives the best results. It calms and steadies the heart, and relieves the cardiac anxiety.

It must not be forgotten that the action of digitalis in valvular disease of the heart cannot be taken as a criterion of its usefulness as a cardiac stimulant in febrile affections, particularly pneumonia, because new elements, mechanical and chemical, are introduced.

TYPHOID FEVER IN CHICAGO.

The New York correspondent of the *British Medical Journal* has recently written concerning typhoid fever in Chicago, recalling the fact that nearly two thousand deaths occurred here from this disease in 1891. The matter at present is one of world wide interest in view of the approaching World's Fair, and it is desirable that the world should know something about this matter besides mere figures, which are often misleading. It must not be forgotten that Chicago is a very large city, and the number of deaths from typhoid, although large, is just about equal to the number of physicians. One death per annum from typhoid for each physician is certainly not a very extensive showing. It means, of course, that a great many of Chicago's 2,000 physicians did not have a single fatal case of the disease during the year.

It was notorious among the physicians of the city, and indeed throughout the western country, that the fatal cases of typhoid were in large measures preceded by influenza. Influenza seemed to act not only by predisposing the individual to typhoid, but also by seriously diminishing his resistance to the disease. It is impossible to estimate the exact influence of influenza upon the death rate from typhoid, but it was certainly very considerable.

There are several distinct supplies of water to the different portions of the city of Chicago, and the character of the water supplied through these different channels differs considerably. The greatest number of typhoid cases occurred in the districts having the poorer water supply, and these districts, by the way, are not those likely to become the stopping places for visitors. The city of Chicago has quite recently made a large appropriation for the improvement of the general water supply.

There is no excitement among the inhabitants of the city on the score of typhoid fever.

SECTION OF OPHTHALMOLOGY.

The next annual meeting of this Section will be held in Detroit, Michigan, June 7, 8, 9, and 10. The Cadillac Hotel has been selected as head-quarters. The members of this Section will dine together on Wednesday, June 8, at 6 P.M., at the Cadillac Hotel. The price of the tickets will be $2 each, and can be obtained from any member of the Executive Committee, namely, Dr. S. C. Ayers, Cincinnati, Ohio, F. C. Hotz, Chicago, Ill., and Edward Jackson, Philadelphia, Pa. It is earnestly requested that each member will inform the Chairman of the Executive Committee, Dr. S. C. Ayres, whether or not he will be present.

The following is the list of papers to be read in the Section of Ophthalmology:

Dr. George Friebis, Case of Congenital Ectopia Lentis.
Dr. B. L. Milliken, Injuries to the Lens, with Cases.
Dr. Charles A. Oliver, Clinical History of a Case of Successful Extraction of a Piece of Steel from an Iris and Lens by an Iridectomy, with Subsequent Absorption of the Lens Substance and Recovery of Normal Vision.
Dr. T. E. Murrell, Eye Injuries Considered in Relation to Sympathetic Affections.
Dr. J. J. Chisolm, The Advantages of Optico-ciliary Neurotomy over Enucleation.
Dr. J. E. Weeks, Surgical Treatment of Trachoma.
Dr. Eugene Smith, New Operation for Trichiasis and Distichiasis—Galvano-Cautery.
Dr. F. C. Hotz, Thiersch's Skin Grafts in Ophthalmic Surgery.
Dr. Edward Jackson, Osteoma of the Orbit; Removal with Preservation of the Visual Functions.
Dr. J. A. White, and W. M. Gray, Orbital and Ocular Growths with Report of Three Cases.
Dr. H. Gradle, The Etiological Relation of Nasal Anomalies to Diseases of the Eye.
Dr. Dudley S. Reynolds, Gradation of Lenses.
Dr. W. Cheatham, Some Peculiar Cases of Astigmatism.
Dr. H. V. Würdemann, What May be Considered Normal Corneal Astigmatism, with Results from Keratometric Examination of One Hundred Emmetropic and One Hundred Ametropic Pairs of Eyes.
Dr. B. Alexander Randall, A Study of the Eyes of Three Hundred and Fifty-seven Boys in the Penn Charter School, of Philadelphia, with Notes on the Examination of School Children.
Dr. Edward Jackson, Latent Hyperopia.
Dr. A. E. Prince, The Fourth Degree Prism in the Correction of Hyperphoria.
Dr. George T. Stevens, On the Relations of the Motor Muscles of the Eyes to Certain Facial Expressions.
Dr. E. J. Gardiner, On the Treatment of the Anomalies of the Ocular Muscles.
Dr. C. J. Lundy, Eye-Strain and its Relation to Functional Disorders of the Nervous System.
Dr. J. A. White, Immature Cataract, and the Best Method for Hastening Maturity.
Dr. A. J. Erwin, Treatment of Incipient Cataract.
Dr. H. Knapp, Method and Results of Simple Extraction.
Dr. A. R. Baker, Pathology and Treatment of Infantile Cataract.
Dr. Leartus Connor, Heterophoria as a Cause of Rhinitis.
Dr. S. D. Risley, Conservatism in the Treatment of Disease of the Lachrymal Passages.
Dr. Charles Hermon Thomas, An Operation for Stricture of the Lachrymal Duct.
Dr. H. M. Starkey, The Treatment of Epiphora.
Dr. Thomas H. Fenton, The Value of Biniodide of Mercury in the Treatment of Eye Diseases.
Dr. H. Ernest Goodman, Clinical Methods at Wills' Hospital.
Dr. G. M. Gould, A Method of Infection and Prophylaxis of Purulent Conjunctivis.
Dr. G. C. Savage, Poultices in Ophthalmic Practice.
Dr. J. F. Fulton, Treatment of Detachment of the Retina.
Dr. S. C. Ayres, Embolism of the Central Artery or Thrombosis (?), with Report of an Interesting Case.

Dr. G. E. de Schweinitz, Embolism of the Central Artery of the Retina, with the Report of Three Cases.
Dr. R. Tilley, Report of a Case of Zonular Atrophy of the Choroid.
Dr. J. G. Carpenter, Tumor of the Cornea.
Dr. Robert D. Gibson, Treatment of Keratoconus by Means of the Galvano-cautery and Iridectomy.
Dr. R. Tilley, Monocular Diplopia.
Dr. W. Oliver Moore, Hysterical Blindness in the Male.
Dr. J. L. Minor, Diseases of the Eye of Malarial Origin.
Dr. William Dickinson, Total Decussation of the Optic Nerve at the Chiasm (Probably).

J. L. THOMPSON, M.D., Chairman,
Indianapolis, Ind.
G. E. de SCHWEINITZ, M.D., Sec'y,
Philadelphia, Pa.

THE PROGRAMME of the Medical Section of the American Medical Association is not yet as complete as is desired. Title of papers must be sent to the Secretary, Dr. James M. French, 250 W. Seventh St., Cincinnati, before May 15, in order to be placed upon the printed programme.

OF ALL diseases coming under my observation, in the last ten years, *the grip* stands at the head to lower vitality. To-day the patient is "well," to-morrow the *don't care* feeling comes. At night extremities "feel as though they would break;" sleep is gone—get up in the morning, eat a good breakfast, and for an hour or two, if exercise is not indulged in, "well" again; but after a little exercise, the uneasy, oppressive sensation in region of heart, tired and don't care, pulse quick and slightly irregular, bowels never regular, pain and frequent attacks of diarrhœa. When will this condition of things cease? I find it going on week after week, month after month, with an occasional aggravated attack, same symptoms. Brandy, whisky, quinine, coal tar preparations, strychnia gentian, iron, cocoa, digitalis, calomel, *bread, butter, meat,* notwithstanding. The old die, and the young and middle-aged don't get *well.*

E. J. BLAIR, M.D.
Monmouth, Ill.

SELECTIONS.

DRY AND MOIST FOGS.—The symptoms complained of from fog differ much according individual constitution and age. During the recent fogs in London I have inquired very carefully into the matter, and have tried to discover if there are any particular symptoms which admit of being grouped together under distinct forms of fog. To some extent it may, I think, be admitted that groupings are possible; but the distinctions are not peculiarly clear, if the term "fog" be not itself in each case defined. The character of the fog makes a decided difference.

Some fogs are moist; some are dry. On the day when I am writing this article—January 24, 1892—we have in the part of London where I reside (Manchester Square) a dense fog; but although I am unable to move from one room to another without the aid of artificial light, the hygrometer in my library records only 38 degrees of moisture in the air, and the barometer is at 30 2-10. This, therefore, may be called a dry fog; it is unpleasant, and it must be unhealthy, but it is not particularly chilling. The symptoms arising from such a fog are those of nervous irritability without feverishness and without unusual depression. I do not notice that they who are sick are very much injured by the fog, nor are they peculiarly depressed by it; those who have bronchial disease are most affected locally, and they are not so much as might be expected. The healthy complain variously. One says the fog renders the eyes irritable and causes a free secretion of fluid, with constriction about the forehead and a sense of weight in the head, but without actual catarrh. Another complains of constriction and dryness of the mucous membrane of the fauces, with an extension of the same along the bronchial tract, and with a certain amount of constriction of the chest. A third is conscious only of muscular weakness. A strong middle-aged man says he feels "as if he were drawn by a magnet whenever he seats himself in a chair"; the chair, that is to say, seems to draw him to itself; and when he lies down in bed he feels as if all his body were drawn earthwards in a similar manner. In plain language, the fog makes him physically feeble. On the other side I have found some persons, who, although advanced in life, are in excellent condition, and say they feel in good spirits, but regret they cannot, because of the darkness, get out of doors for exercise with their usual facility. I notice now also, as I have noticed in previous conditions of a similar character, that no great excess of catarrh, rheumatism, or neuralgia prevails. One, all but confirmed, rheumatic sufferer, under my frequent observation, is at this moment freer from pain and more active than she has been for many years past.

Those who have chronic bronchitis or asthma during dry fog with a high barometer suffer from irritation in the bronchial passages, and expectorate a secretion which for colour approaches soot-black. They do not, however, complain seriously, and one asthmatic I know is relieved considerably. Altogether the dry fog is a troublesome, but barring physical accidents incident to the darkness it causes, it is not a dangerous enemy.

The moist fog is quite a different enemy. It is directly bad and dangerously bad, whether it occur in warm or mild or in cold weather. It is a cause of chill, of catarrh, of bronchial mischief, of rheumatism, of dyspepsia, and of depression of mind and body. It intensifies the symptoms of all the acute diseases, and it aggravates those of a chronic character. The primary evil of the damp fog is that it suppresses the function of the skin and prevents the free elimination of water from that eliminating surface. Under this the balance between the venous and arterial blood is too equal, and the venous blood fails to exercise its full power of absorption from the different organic structures. There is an approach to osmotic stasis which must at all times be a dangerous condition, a condition at best incompatible with healthy life. Under such condition there is an imperfect oxidation, an accumulation of dead material within the body, which—to use a commonplace simile—like dust in the works of a watch or a clock, makes action slow and laborious. In a dry fog evaporation may continue unchanged; in the moist it never can. Again, in the moist fog the action of the water vapor, in which the body is enveloped, is rendered more perilous by the fact that the water carries away, with great rapidity, the vital heat. The clothing around the body becomes charged with moist vapor; the surface of the body is in contact with the moisture of the clothing; the moisture of the clothing in contact with the moisture of the air, and every wind or draught that blows carries off the radiating heat and leaves the body cold. In that kind of air surcharged with moisture as well as dust, the statical electrical machine will not act in the free and ready manner in which it does in the dry fog. The living body is in the same predicament.

So it turns out, under observation, that the state of the bodies of men tells of itself the nature of a fog, without the necessity of referring to hygrometers or other physical instruments; in fact, the body of man is itself a test instrument. In the moist fog there are experienced all the states

of an impeded action. A cold passes readily into bronchitis or pneumonia, acute or chronic rheumatism, congestion of the liver, a disturbance of the stomach or bowels, or a nervous outbreak of pain, as well as into depressions physical or mental, or physical and mental.

These facts have an immediate and all-important bearing on practice. Hitherto, the word "fog" has too easily been accepted as indicative of one state of the outer air alone, and therefore indicative of the same dangers under all circumstances. Darkness only has been accepted as the sign of evil. This is not correct. The proper exposition would be more nearly rendered by saying that a dry fog is inconvenient, a moist one dangerous. When I enter my consulting room in the morning to find it besmirched with fog, with the windows darkened by a cloud outside, I turn to the hygrometer and the electric machine near by. If I find the air free of excess of moisture, and if a few turns of the electric machine give me good sparks, with ozone, I know that, whatever the temperature may be, the fog is a dry fog. But if the moisture of the air be great, and the electric spark all but impossible to obtain, I know it is a moist fog, and on those distinctions my recommendations largely turn for the day. Against the dangers of the moist fog I warn every patient; I request all to keep in a warm atmosphere, rendered as dry as it can be made; and in particular cases I instruct how to filter the air and dry it specially as it enters sick-rooms; I forbid outdoor exposure, and I take great care in directions as to clothing and regimen. When the fog is dry, I omit many of these precautionary measures, and, except advising that a porous comforter be worn over the mouth and nose in order to filter the atmosphere, I enforce none of the stringent rules, nor any rules stringently, as in the case of the moist fog. Also in regard to travelling I make this marked difference: that in the moist fog no risks must be accepted by the sick, whilst in the dry fog, with moderate precautions, travelling may be carried out with comparative safety.

I notice, lastly, as between the effects of dry and moist fogs, that pain is a marked and distinctive test. Rheumatic pains, neuralgic pains, and toothaches are so specific to moist fogs, they will, of themselves, differentiate one fog from another.—*The Asclepiad.*

On the Action of Carbolic Acid and Oil of Cloves Applied Locally in Lupus.—Unna, who had already recommended these remedies in the treatment of lupus, has studied the effects of repeated pencillings in sections made from portions of the tissues while under treatment, and has fully described the appearances. As regards carbolic acid he draws the following conclusions:—Carbolic acid attacks preferentially the older and already disorganized elements, and rapidly induces molecular destruction—therefore the disappearance of the lupus plasmoma and fibroma under cauterization by carbolic acid is perfectly conceivable. Whether in this process of absorption the tubercle bacilli persist or die, can, for known reasons, be better determined clinically than histologically. In accordance with his previous experience, he is certain that in some cases single or repeated active cauterization with carbolic acid can cause the disappearance of lupus nodules without further treatment. The number of cauterizations must be suited to the depth to which the nodules penetrate, and they must be persevered in steadily and without intermission with undiluted carbolic acid. As regards clove oil, clinical observation teaches, that by timely interrupted application of clove oil till separation of the whole epithelium occurs, all the phenomena soon show retrogression, with diminution in the volume of the lupus fibroma and plasmoma. A better preliminary to absorption than the far-reaching interstitial œdema which occurs can hardly be conceived. If, therefore, the distinct action of clove oil on the lupus nodules is slight, in a therapeutic point of view insufficient, and cannot compare with cauterization with carbolic acid, yet the basis for its employment is to be found in the slighter directly injurious action, in the absence of complete necrosis, and the small amount of harm done to the nuclei, while the indirect effect, the reaction in form of serous inflammation, is much more considerable than after cauterization by carbolic acid. The cauterization with clove oil does not with certainty act destructively on the tubercle bacilli, while such an effect of carbolic acid is, at least, probable from clinical experience. —*Monatshefte für prakt. Dermatologie.*

Origin of the Term "La Grippe." (*L'Union Médicale*, Paris.) —A writer in the *feuilleton* of this paper is astonished that his countrymen should use the word "influenza," when they have long had a term of their own for this troublesome malady with much more appropriateness and, as it ought to have, more spiteful a sound. It was so first used, he tells us, in 1743, by Louis XV., when the disease was raging in the early months of that year, in which rain, frost, ice and snow were most dismally commingled week after week, and rheums and fluxions of the chest made all men miserable, and even royal mistresses unpresentable; and from the suddenness of the attack: "*Le roi nomma cette maladie la grippe.*" And in 1427 there seems to have been an epidemic of the same or a very similar kind, for in quaint old bourgeois French we read: "Item, at this time, about fifteen days before the feast of Saint Rémy (that is towards the 15th of September, S. Rémy's day being October 1), there came a corrupted air amidst us, and from it a very evil sickness which they call *la dando*, and one can but endure it as long as it lasts. And it begins with violent rackings in the reins and loins, just as if one had the gravel, with strong cruel pains; and after that long shiverings, and for VIII or X or XV days afterwards one can neither drink, nor eat, nor sleep, more or less, and then cometh a cough so bad that at sermon time one cannot hear the sermoner for the great noise of the coughers. And one sees not man nor woman but with the mouth and nose all red and sore with the rheum, and when two gossips meet they say: 'Hast thou had the dando yet?' And if she say no, the other replies, coughing all the while, 'Oh, take care, or truly it will cost thee dear.'" A Portuguese translation (*A. Med. Contemp.*) adds: "Dando, dand, dandy-fever, dengue or influenza—all the same thing."—*The Provincial Medical Journal.*

Presentation of a Young Man of Seventeen with Congenital Spastic Paralysis.—By Lorenz (*Internat. klin. Rundschau*, 1891). Patient's first attempts to walk were made at five years of age. The spasm chiefly affected the flexors of the knee-joint and the extensors of the foot, leading to contracture of the knee and talipes equinus. Lorenz distinguishes three groups of cases: (1) those with talipes equinus; (2) those with flexion-contracture of knee-joint; (3) adduction-contracture of the thigh. Bearing in mind that the spastic gait is not due to paralysis of muscles, but rather to overaction on the part of certain sets of muscles, Lorenz determined to reduce or eliminate the action of the disturbing muscles by tenotomy, tendectomy or neurectomy. In talipes equinus it is sufficient to tenotomise the tendo-Achillis, followed up by fixation of the foot in the calcaneal position (talipes calcaneus). The lengthening of the tendon counteracts the effect of the spasm on the ankle-joint. In cases of adduction-spasm of thighs, Lorenz in four cases excised portions of both branches of the obturator nerve. Where there is flexion-spasm of the knee-joint he recommends simple tenotomy of the biceps femoris, and excision of about one to two centimetres of the tendons of the

semi-membranosus, semi-tendinosus, and gracilis, after freely exposing them. With regard to the patient presented by Lorenz, he treated ten tendons at one sitting, partly by tenotomy and partly by tendectomy. The result is noteworthy. The patient, who previously could scarcely stand, can now walk even without assistance, and is for hours on his legs.—Grisson, *Centralbl. f. Chir.* No. 6, 1892.

THE SUPRA RENAL CAPSULES (*Le Progrès Médical*, Feb. 19, 1892).—Messrs. Langlois and Abelous have come to the conclusion that there is naturally formed in the blood a poison, similar in action to curare, which in health is destroyed by the supra renal capsules. Their conclusion is based on the fact that when these organs are destroyed, the animal dies as though curarized, and further by the fact that the blood of animals taken just before their death produces the symptoms of curare in a healthy frog.—*Provincial Medical Journal.*

MISCELLANY.

PRELIMINARY PROGRAM, AMERICAN SURGICAL ASSOCIATION.—This Association will meet in Boston, Mass., Tuesday morning, May 31, and June 1 and 2, 1892, in the hall of the Natural History Society on Berkeley Street.

Special subjects for discussion:

1. "The Treatment of Uncomplicated Fractures of the Lower End of the Humerus and of the Base of the Radius," by John B. Roberts, M.D., Philadelphia, Pa.

Discussion by Drs. John E. Owens, of Chicago, John H. Packard, of Philadelphia, C. B. Porter, of Boston, and J. Ford Thompson, of Washington, D. C.

2. "Fibroid Tumors of the Uterus," by John Homans, M.D., Boston, Mass.

Discussion by Drs. F. E. Lange, of New York, M. H. Richardson, of Boston, A. M. Vander Veer, of Albany, J. Ewing Mears, of Philadelphia, and George R. Fowler, of Brooklyn.

3. "Surgical Operations in Persons Suffering from Diseases not connected with that necessitating the Operation, such as Chronic Malarial Poisoning, Diabetes, Organic Heart Disease, etc.," By W. T. Briggs, M.D., Nashville, Tenn.

Discussion by Drs. T. F. Prewitt, of St. Louis, Hunter McGuire, of Richmond, and W. W. Dawson, of Cincinnati.

4. "Surgery of the Tongue," by N. P. Dandridge, Cincinnati, Ohio.

Discussion by Drs. D. W. Cheever, of Boston, D. W. Yandell, of Louisville, and L. McLane Tiffany, of Baltimore.

5. "Conditions demanding Excision of the Globe of the Eye," by W. H. Carmalt, M.D., New Haven, Conn.

Discussion by Dr. Wm. Thomson, Philadelphia, Pa.

6. "Ancient Contractures of the Hip and Knee Joints," by T. F. Prewitt, M.D., St. Louis, Missouri.

Discussion by Drs. DeForrest Willard, of Philadelphia, and Robert Abbe, of New York.

7. "Report of Operations upon Spina Bifida and Encephalocele, with remarks," by A. T. Cabot, M.D., Boston, Mass.

The Association will meet on Wednesday morning, in the Amphitheatre of the Massachusetts General Hospital, and on Thursday morning in the Amphitheatre of the Boston City Hospital. PHINEAS S. CONNOR, President.

J. R. WEIST, Secretary.

THE second meeting of the Conference of the Medical Examining and Licensing Boards will meet at Detroit. Time and place will be announced hereafter.

NEW MEXICO FOR CONSUMPTIVES, ETC.—Report of committee of Albuquerque physicians in regard to the class of patients who are benefited or recover by residence in the climate of Albuquerque, New Mexico, and vicinity:

First: All uncomplicated cases of nasal, pharyngeal, laryngeal, acute or chronic inflammations, accompanied with a moist discharge, are benefited or recover.

Second: Bronchitis of all types, except those cases in which there are indications of bronchial dilatation, is relieved.

Third: Cases of chronic pneumonia, chronic pleurisy with non-expansion of lungs, are benefited by the decrease of air pressure and consequent increase of chest expansion.

Fourth: All cases of tubercular trouble, except such as hereafter noted, when accompanied by slight pyrexia or acute symptoms, or in which hereditary or family predisposition are well marked, are benefited by residence, with greater or less arrest of disease.

Fifth: "In this altitude, which is only 5,000 feet, as a rule, a tendency to hæmorrhage is diminished." This does not refer to those cases of hæmorrhage due to erosion or rupture of large vessels.

Sixth: We do not recommend this climate for those cases of phthisis or tuberculosis in which the disease has advanced to such an extent as to give rise to habitual fever of two or more degrees, decided emaciation, extensive consolidation, emphysema, profuse hæmorrhages, heart complications, with *rapid pulse*, or in cases in which well-defined cavities exist.

Seventh: Uncomplicated cases of asthma are benefited or recover.

Eighth: We have found that while the climate in this vicinity gives decided encouragement to the classes of cases that we have indicated, we want to emphasize the fact that we deem it absolutely necessary that patients find mental or light physical employment, thus distracting their thoughts from their illness. Few recover who sit around the hotels in idleness. Further, we desire to impress this fact upon the profession throughout the country who send patients to this part of New Mexico, viz.: that patients suffering from chronic pulmonary diseases, especially those patients on whose system the disease has made decided impression, should remain permanently in a high altitude.

Ninth: We advise all patients coming from lower altitudes, while here, to seek residence on the table-land (mesa), or "at least out of the valley proper." James H. Wroth, M.D.; W. G. Hope, M.D.; G. S. Easterday, M.D.; A. A. Allison, M.D.; J. G. Mauon, M.D.; Albert E. Ealy, M.D.; S. M. Haslea, M.D.; H. F. Hall, M.D.; C. F. Wilkin, M.D.; J. P. Kaster, M.D.; G. W. Harrison, M.D.; Strickland Aubright, M.D.; W. T. Shepard, M.D.

THE second annual meeting of the American Electrotherapeutic Association will be held in New York, October 4, 5, and 6, 1892, at the New York Academy of Medicine, 17 West 43d Street. H. R. BIGELOW, M.D., Secretary, W. J. MORTON, M.D., President.

OFFICIAL LIST OF CHANGES in the Stations and Duties of Officers Serving in the Medical Department, U. S. Army, from May 1, 1892, to May 6, 1892.

Lieut.-Col. William D. Wolverton, Asst. Medical Purveyor U. S. A., is granted leave of absence until July 10, 1892.

Capt. Louis W. Crampton, Asst. Surgeon U. S. A., is relieved from further duty at Ft. Townsend, Washington, and will report in person to the commanding officer, Ft. Spokane, Washington, for duty at that station.

Capt. Aaron H. Appel, Asst. Surgeon, is relieved from duty at Ft. D. A. Russell, Wyo., and will report in person for duty to the commanding officer, Ft. Buford, N. D., relieving Capt. Julian M. Cabell, Asst. Surgeon, who will then report in person for duty to the commanding officer, Ft. D. A. Russell, Wyo.

Capt. Robert R. Ball, Asst. Surgeon, is relieved from further duty at Ft. Spokane, Washington, and will report in person to the commanding officer, Ft. Townsend, Washington, for duty at that station.

First Lieut. Alfred F. Bradley, Asst. Surgeon U. S. A., will, upon the arrival of Acting Asst. Surgeon George D. Deshon, U. S. A., at Columbus Bks., O., return to his proper station (Omaha, Neb.).

Capt. George McCreery, Asst. Surgeon U. S. A., leave of absence granted for seven days is extended fifteen days.

First Lieut. Henry D. Snyder, Asst. Surgeon U. S. A., granted leave of absence for one month and fifteen days, to take effect when his services can be spared by his post commander.

OFFICIAL LIST OF CHANGES in the Medical Corps of the U. S. Navy, for two Weeks, Ending May 6, 1892.

Surgeon L. G. Heneberger, detached from U. S. S. "Iroquois," and granted three months' leave of absence.

Asst. Surgeon J. E. Page, detached from U. S. S. "Iroquois," and ordered to the receiving ship "Independence."

Surgeon J. R. Waggener, detached from U. S. S. "Kearsarge" and Naval Hospital, New York, and placed on waiting orders.

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